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Inaugural Lecture
ON THE
MODERN COMBAT AGAINST TUBERCULOSIS AMONGST CHILDREN.

Delivered at the Medical School of the Royal Hospital for Diseases of the Chest, City-road, London, on Oct. 17th, 1912,

BY PROFESSOR DR. NIETNER,
GENERAL SECRETARY OF THE GERMAN CENTRAL COMMITTEE FOR THE PREVENTION OF TUBERCULOSIS.

MR. CHAIRMAN, LADIES, AND GENTLEMEN,—Before entering upon the subject of my address I wish to express my profound appreciation of the honour that the medical staff and the council of the Royal Hospital for Diseases of the Chest have shown me in inviting me to come here to-day to give the inaugural lecture to the medical school attached to this hospital.

I regard this action on their part as not only a personal honour, but as also honouring all German endeavour in the field of tuberculosis prevention, in the central organisation of which I have the privilege of coöperating. It is for this reason that I overcame certain well-founded scruples, and that I accepted the invitation so cordially extended to me. My scruples were two-fold. In the first place, I am painfully conscious of my shortcomings as regards the command of the English tongue, and I entertained the misgiving whether I really could venture on giving you an address in your own language. Only the amiable encouragement of my kind friend, Dr. Barty King, and the conviction that I should find in you indulgent listeners enabled me to conquer this misgiving. My second fear was whether I could tell you, who have so long been ahead of us in Germany in the fight against tuberculosis, anything new or useful. But I believe that an account of all that we have found, in the course of our experience, to be of the greatest practical value in the prevention of tuberculosis may not be without interest to you; and from you again I hope to learn many facts that may help us in our further efforts in Germany. Consequently, I have accepted your invitation with very great pleasure, and have only again to crave your friendly indulgence.

CAMPAIGN AGAINST TUBERCULOSIS IN VARIOUS COUNTRIES.

Permit me to express sincere and hearty wishes for the just completed new building of this venerable house, by the foundation of which you already began the campaign against tuberculosis in Great Britain in the year 1814. The Royal Hospital now enters on a new era of its existence, as, by the addition of all modern equipments for scientific research and therapeutic purposes, as well as by the addition of a dispensary and this medical school, it may become a means of great assistance to the population in general as well as to the medical profession. May the hospital in its new form help to deepen our knowledge of tuberculosis, that terrible scourge of the people, and so to further the interest for the same among physicians that this important disease deserves, which unfortunately until recently has been the stepchild of most clinics. May the hospital and its medical school flourish and prosper to the glory of its founders and for the blessing of the unfortunate consumptives.

After the Royal Hospital, a second with 321 beds was built in London in 1841, and the number of these consumptive hospitals has increased since then very much. Also the first marine hospital for scrofulous patients was opened in England as early as 1799.

By these means and through general improvement in hygienic conditions you have succeeded in reducing your death-rate from tuberculosis more than 50 per cent. during the last 50 years, and from pulmonary tuberculosis, in particular, over 60 per cent.

The important factor in the prevention of the spread of tuberculosis in England has been the removal of advanced cases from their wretched surroundings, thereby reducing the imminent danger of infection amongst members of the same household, efforts being naturally made at the same time to restore the health and wage-earning capacity of those received into the hospitals.

The great general movement towards a systematic campaign against tuberculosis, which could be traced along a variety of convergent lines, began, as is well known, in the middle of the "nineties." It dated with us in Germany from the founding of our Central Committee for the Prevention of Tuberculosis in 1895, and the entire movement became more coördinated after the first International Tuberculosis Congress, which was held in Berlin in 1899 at the suggestion of the German Central Committee.

I may take it for granted that all here present know the broad lines of that movement, both as regards Germany, where we began with the care for the still curable consumptives because the means for so doing lay ready to our hand in the large sums placed at our disposal by the compulsory industrial insurance authorities, and as regards other countries where social insurance had not as yet been introduced. Working on different lines, the several countries who have energetically waged war against the disease can all point to the same encouraging result in the considerable decrease in the death-rate from tuberculosis. We in Germany can show a reduction of over 50 per cent. since the middle of the "eighties."

In all countries the initial efforts were directed against the prevention of tuberculosis among adults. As pulmonary tuberculosis, which is the most common form of the disease, claimed by far the greater number of its victims among persons during the wage-earning period of life, it was generally accepted that infection took place during this period.

PREVALENCE OF JUVENILE TUBERCULOSIS.

Juvenile tuberculosis was regarded as of very much smaller significance, partly because, with the exception of tubercular meningitis, the characteristic forms of the disease in children, which are generally associated with the glands or with the bones and joints, are seldom attended by fatal results, but generally respond to appropriate treatment, and partly because pulmonary tuberculosis at this age is comparatively rare. The researches of the last ten years—those of Roemer, Hamburger, von Pirquet, Schlossmann, and others—have, however, demonstrated the fallacy of these theories by bringing to light facts which point to the conclusion that in a very large majority of cases infection occurs during early childhood, and, indeed, during the first years of life.

While the *mortality* curve from tuberculosis shows meningitis to be the most frequent form of death for the first year of life—to quote the figures collected by B. Fraenkel for the years 1908 and 1909[1]—the deaths from this cause steadily decreasing until the tenth year, to rise again, first slowly and then more rapidly from the onset of puberty, the *morbidity* curve shows a blank for the first year of life. Data on this point are due to the recent illuminating researches, chiefly based on von Pirquet's cutano-reaction, of Baginsky, Daske, Engel and Bauer, Ganghofer, Hamburger, Schlossmann, and many others.

With the commencement of the second half year of life the infections become more frequent. Their number increases regularly during the compulsory school age, chiefly after the tenth year, when they reach an alarming height. The number of infections is higher, too, in the older girls' classes than in the corresponding boys' classes. Hamburger, basing his statement on his own researches, declares that up to the completed twelfth year of life 90 per cent. of all children are infected. Daske, who instituted extensive researches into the spread of tuberculosis in the elementary schools in the town of Düsseldorf, found that out of 33,260 children 0·43 per cent. were tuberculous "suspects" on account of "chronic cough." The majority of the affected children were girls, and most of the children attended schools in the poorest neighbourhoods.

Von Pirquet's cutano-reaction gave positive results in 46·6 per cent. of all the children (43·3 per cent. amongst the boys and 45·4 per cent. amongst the girls). From 6–8 years, in 40·7 per cent.; from 9–11 years, in 43·7 per cent.; and from 12–14 years, in 49·9 per cent.

Engel and Bauer found that among the children of 13 and 14 years who were inmates of the Düsseldorf Children's Asylum, 50 per cent. of the girls and 56 per cent. of the boys exhibited tuberculous symptoms.[2] Ganghofer, in Prague,

[1] Zeitschrift für Tuberkulose, Band xviii., p. 214.
[2] Berliner Klinische Wochenschrift, 1907, No. 37.

found that between 7 and 10 years of age and between 11 and 14 years, 70 per cent. of the children examined by him were tuberculous.[3]

Nearly all researches conducted on these lines gave similar results—within certain limits of variation, of course.

I have myself made an exhaustive research over a limited area of Germany, the Fürstentum Birkenfeld, regarding the spread of tuberculosis in rural communities, in the course of which I submitted all the school children living within that area to von Pirquet's test. The positive results in these cases varied, generally speaking, between 26 and 67 per cent., but in one badly affected area 87 per cent. was reached in the oldest girls' class. The average lay between 40 and 50 per cent.

The value of von Pirquet's test for such mass examinations amongst children is now almost universally admitted. Hamburger states:—

> For individual cases the test may only be regarded as a diagnostic aid, but it is of enormous value in scientific research. It is also the sole available means for discovering the incidence of tuberculous infection amongst school children.

Daske says:—

> In the cutano-reaction we have at our disposal a simple, rapid, harmless, and comparatively trustworthy method for the diagnosis of tuberculosis during the period of childhood and one that is of inestimable value to the school doctor in particular.

Should doubts still exist as to the trustworthiness of the cutano-reaction, I can only state that in the area which was examined by me, a medical official in localities which I had not as yet explored arrived at results, by means of purely clinical but very laborious investigations, that accurately coincided with mine regarding the incidence of tuberculosis, mine being attained by the much more rapid and convenient method of cutano-reaction. In other localities, also, where control observations were conducted the results were identical. Similar experiences have been furnished by other countries.

At all events, incontrovertible facts point to so widespread an incidence of tuberculosis amongst children that an energetic and systematic line of action is clearly indicated if we wish fully to attain our object and remove this scourge from humanity. Schlossmann has gone so far as to state that tuberculosis is a true *children's disease*, which is acquired during the age of childhood, must be prevented during childhood, treated during childhood, and healed during childhood.

SOURCE OF INFECTION.

Now whence is the infection during childhood derived? The fact stands beyond a doubt that in a very large majority of cases the source of infection is the human subject suffering from "open" tuberculosis, and that infection is effected through the close intercourse resulting from family life within the walls of the home. The transmission of infection through hereditary influences and through infected milk and milk products must also claim consideration.

At the present moment the theory of infection transmitted through heredity, of which P. Baumgarten is the most prominent upholder, finds few supporters. The direct evidence of a tuberculous infection in the fœtus or in the newly born has been furnished in isolated instances through dissection and animal experiments, but many of such instances are not free from doubt, and at best they present such a scanty record that their significance is negligible in the struggle against tuberculosis as a national pestilence.

Neither can infection through tuberculous milk be said to play an important rôle from this point of view. It is true that a series of cases of infection have been traced beyond a doubt to the consumption by infants of tuberculous milk. But their number is so small that they weigh lightly in the scale as against the number of infections that can be traced to contact with tuberculous persons. To this must be added that such cases generally run a favourable course, and only in rare instances has infection derived from *perlsucht* bacilli resulted in death.[4]

Our attention, therefore, must be concentrated on infection acquired through contact with tuberculous subjects in my remarks on the prophylaxis against the tuberculosis of childhood.

The question as to the initial focus of infection in the organism of the tuberculous child has not yet been finally decided. But the consensus of opinion seems to incline more and more to the theory that usually it is the *lung* that is the primary area of infection. This opinion has recently received valuable support from Dr. Anton Ghon, of Prague.[5] He states that his own researches have demonstrated that in 95 per cent. of the 184 post-mortem examinations which he conducted with minute care the primary focus was found to be in the lung.

DIAGNOSIS.

Before I enter upon the subject of prophylactic measures I would like to say a few words about the exact diagnosis of juvenile tuberculosis. I regard it as superfluous here to say anything about definite pulmonary tuberculosis, that comparatively rare disease amongst children. From a prophylactic point of view those cases are of much greater importance in which the earlier stages do not readily lend themselves to exact diagnosis and where, therefore, the disease is only suspected.

The foremost place in diagnostic procedure must naturally be given to careful clinical examination and to the accurate registering of temperature. With regard to the latter, I should like to state emphatically that only two-hourly, or at least three-hourly, temperature takings can be regarded as trustworthy in bringing to light those oscillations of temperature which are such a characteristic feature in tubercular disease, a fact that is often neglected by the practitioner. A most valuable aid to clinical examination is afforded by the X ray picture, particularly in cases of tuberculosis of the bronchial glands, their presence being demonstrated by the rays in far greater number than could otherwise be discovered.

The tuberculin tests, when rightly applied and correctly interpreted, also offer invaluable diagnostic aids. But it must be acknowledged that though these tests indicate the existence of tuberculosis, they give no precise clue as to the degree of activity present.

It is not necessary for me here to enumerate the various forms in which juvenile tuberculosis may be exhibited, particularly as this point is of small importance in determining the nature of the prophylactic measures to be adopted.

PREVENTIVE MEASURES.

I will now discuss practical measures for dealing with the tuberculosis of infancy and childhood. They are of a twofold character: preventive measures and curative measures. Before this audience it would be beside the point to enumerate the long list of well-known general measures that have been adopted for the prevention of tuberculosis. I will therefore confine myself to discussing those that are peculiarly designed to promote the safeguarding of children and which promise the greatest measure of success.

The indirect measures I will only briefly touch upon. Amongst these the preventing of the marriage of tuberculous females comes first. If the case is one of definite open tuberculosis it is the duty of the medical adviser to use every argument at his command to prevent such a union taking place, even when the disease is not progressive, but appears to have reached a stage of quiescence. The dangerous consequences which pregnancy in such a case would entail, both upon the mother and child, are to be clearly brought home to the woman.

Should a tuberculous woman be delivered of an apparently healthy infant, the question arises whether she is to be allowed to suckle her child. Medical opinion is divided upon this point. Since, however, modern researches have demonstrated that the milk of tuberculous mothers, even when there is no mammary disease, harbours tubercle bacilli, the suckling of infants by tuberculous mothers should in all circumstances be prohibited.

SAFEGUARDING OF CHILDREN IN FAMILIES WITH TUBERCULOUS MEMBERS.

If we take our stand upon the theory that the chief source of infection for children also is represented by the adult suffering from open tuberculosis, it follows as a natural consequence that the more cramped and unclean the dwelling, and the more intimate the intercourse among its inmates, the greater is the danger from infection for the child exposed to such conditions. It is therefore obvious

[3] Wiener Klinische Wochenschrift, 1908, No. 41.

[4] Weber and Steffenhagen, Arbeiten aus dem Kaiserlichen Gesundheitsamt, 1911, Band ii., und Ungermann, ibid., Band xii.

[5] Der Primäre Lungenheerd bei der Tuberkulose der Kinder (The Primary Pulmonary Focus in Juvenile Tuberculosis), Prague, 1912.

that the safest precautionary measure in the interests of the child would be to remove the diseased subject away from the still healthy members of his family. How this can best be accomplished has been debated by numerous investigators and social workers, both at congresses and in writings. But as yet no satisfactory solution has been arrived at.

We admit that in theory the safest way of safeguarding the child from infection emanating from diseased members of the family would be to isolate *permanently* all those who are carriers and distributors of tubercle bacilli. But the impracticability of such a measure is universally acknowledged and calls for no further comment.

Equally safe would be the *permanent* removal of the healthy child from the infected and infective *milieu* and its accommodation in healthy surroundings. Such children could be boarded out in healthy families in the country, as is done in the scheme initiated by Grancher, the well-known children's specialist in Paris. It is true that his scheme has achieved good results. But such a scheme could never be applied to more than a limited number of infants. In the first place, the cost would be prohibitive, and, secondly, the supply of suitable families would run short.

But an obstacle of equal importance would be found in the opposition of the parents to any such general scheme. It is only in scattered instances that parents can be induced to part with their children, and the difficulty in breaking down this opposition would always be greatest in countries where the conceptions of family life had attained their strongest development.

This opposition is both natural and commendable, for such a separation would be futile unless it were of a permanent character. The children of tuberculous parents would need to be removed from their dangerous environment as soon as possible after birth, and would have to remain with their foster-parents until they had entered into the ranks of wage-earners. For we have seen that only the newly-born are free from bacilli, and that infection takes place during the second half of the first year of life, and that it then increases in incidence until the age of puberty.

Social experiments, which have been made on a large scale, chiefly in Sweden, have demonstrated that tubercular parents more readily surrender their children to institutions and to organised homes than to families, and that the children often do very well in institutions of this description. But such schemes cannot be advocated as a sound social measure in the war against tuberculosis as a national pestilence. The parents who will voluntarily resign their children will always represent a comparatively small minority, and the cost to the State of such institutions, in which the children must be maintained from the first year of life to the end of the school career, would considerably exceed even the costs of an orphanage.

Baginsky, of Berlin, demanded the erection of small simple cottage homes scattered all over the country in which children who were exposed to tuberculous infection in their own homes could be brought up in the vicinity of their parents. As far as I know, no practical attempts at carrying out his suggestion have yet been made, and I hardly think that they would prove more easily practicable than the Swedish system of infants' homes.

The Saxon Association for Volksheilstätten has recently acquired a tract of land in a rural district to be utilised for a children's colony. To this colony are to be sent children who stand in imminent danger of contracting tuberculosis if they remain in their original environment—those who have already contracted pulmonary tuberculosis being excluded and sent to Heilstätten—and here they are to remain either until they have acquired resistance to the disease or until their home conditions no longer warrant their being kept away from their own families. These children are early to be taught how to maintain and promote their own health during work and play. They are to become acquainted with simple but adequate hygienic surroundings, such as every adult should with determination be quite able to secure for himself.

Another experiment of a different kind was also made in Sweden, the object of which was to enable tuberculous families to rear healthy children without parting from them, and this has also met with partial success. Whole families, each of which included at least one tuberculous member, were accommodated in family dwellings which were specially arranged for their reception. A medical man treated the patients and, aided by a nurse, taught and supervised the healthy contacts. It is claimed that in this way infection was prevented from spreading within the family circle. Such a scheme necessitates a large expenditure and therefore could never meet with general acceptance.

In Germany, in Altena in Westphalia, a large capitalist who is the proprietor of a great metal industry, and amongst whose workpeople tuberculosis was rife, has built dwellings with accommodation for two to six families. These have a warm, sunny aspect, and are situated close to a forest. Each house is so arranged that it contains a sick room fitted up with a balcony and fully isolated from the remainder of the rooms. The proper use of these houses is controlled by a medical man and nurse. Here, too, it is said that infection has not spread beyond the patient to the children. Unfortunately, this benefactor has as yet had no imitators with us in Germany. The town of Cologne intends to erect special houses for families with a member suffering from tuberculosis. In the north of France a number of family dwellings for consumptive families have been erected in connexion with a sanatorium for pulmonary tuberculosis. But they have met with no appreciation and generally stand empty.

The ruling idea in all these establishments is highly commendable. But experience has proved that none of them are practicable on a large scale. A substitute for such schemes that is of great value to us in Germany in our endeavours to check tuberculosis is the building of small houses to accommodate one or two families amongst the working classes. Such dwellings have long existed in England to the benefit of the working man. We in Germany are copying the example of England in this respect, chiefly in the extensive industrial districts connected with the metal and mining industries. The Garden City movement has the same end in view, but only proceeds slowly, chiefly because ground in the neighbourhood of large towns is too dear, and in many cases also because the traffic facilities are not yet sufficiently forthcoming.

Pure Milk-supply.—Popular Enlightenment.

Amongst other general hygienic measures which conduce to promote the prevention of tuberculosis must still be mentioned a pure milk-supply for children, the enlightenment of the whole population regarding healthy living and the rearing of the next generation, and also special teaching in reference to the infective potentialities of tuberculosis and to the available methods for neutralising them.

As regards the milk nutrition of infants it has been our experience in Germany for some years past that, in consequence of the increase in the number of coöperative dairies and wholesale milk industries, not only the infants in large towns but also those in rural districts suffer from insufficient nourishment. The whole milk is sent to the dairies to be utilised for cream and butter, and the children are fed with skim-milk. This should be most energetically prevented. We have recently made most strenuous efforts to encourage the keeping of goats for milk. The poor man can generally keep his own goat, and if properly cared for it will supply his children with good milk at a small cost, while the milk offers certain well-known advantages over cows' milk. Cows' milk should, of course, first be boiled.

As concerns the popular enlightenment of the entire nation, which is so obviously called for, the institution known as "wander-museums" appears to answer best. We have 20 such museums in Germany. They serve as excellent concrete object-lessons, supplemented by popular lectures by medical men, as they travel from place to place. Popular articles in the daily press, the distribution of leaflets and lantern lectures, serve the same purpose. The most thorough elucidation is given by the dispensaries by constantly repeated instruction practically showing the different means of prevention, especially to the housewife in the dwelling of the diseased. Finally, the raising of the powers of resistance in the organism of the child should find mention amongst general measures.

Safeguarding Infants and Children under School Age.

I now proceed to discuss special measures for safeguarding children, and it will be well to take each age-period separately.

During the suckling stage the infant comes into contact with comparatively few individuals, and passes his days

either in his cot or on his mother's arm. The range of infection is therefore limited, provided his mother is a healthy woman. During this period, therefore, good nutrition is what counts most. Breast-feeding by a healthy mother must, of course, be advocated and supported in every direction. At the instigation of the Empress Augusta Victoria there is now a widespread movement going on in Germany having for its object the prevention of infant mortality throughout the German Empire, its foremost endeavour being to promote breast-feeding, partly through the teaching of the proper care of infants and partly through the provision of breast-feeding premiums. Where breast-feeding is radically impossible mothers are provided with opportunities for obtaining good milk.

We have already stated that a tuberculous mother should not be permitted to suckle her child, and to this must be added that it is of great importance that supervision should be exercised over the health conditions of wet-nurses and of all persons entrusted with the personal care of infants, a matter that often escapes attention. Tuberculous wet-nurses and nursemaids should be at once discharged.

The baby should also be kept away from a sick father and unhealthy brothers and sisters. These should not be permitted to kiss it. From sheer ignorance it is unfortunately a frequent custom amongst the poorer classes to entrust the care of small children to delicate members of the family who are incapacitated from wage-earning. It is urgently necessary that medical practitioners, where possible, should prevent this duty being undertaken by tuberculous persons. In the case of boarded-out infants care should be taken that such children are not accommodated in families containing a tuberculous member.

From the end of the first year of life until the school age the children still move principally within the narrow limits of the home. But as their powers of independent movement increase they come more and more into contact with other persons. For this age the same precautions that were cited in regard to the first year of life are applicable. But they need some expansion.

The children now begin to crawl about the floor and then to traverse the various rooms of the dwelling. They touch every object that comes within their reach and put it and their own fingers into their mouths. The range of infective possibilities is thereby largely increased, and the necessity for strictly precautionary measures is thus of greater urgency, particularly as regards keeping infected persons at a proper distance from the children, the radical destruction of infected sputum, and the maintenance of scrupulous cleanliness within the home, in order to exclude every possibility of "droplet" or of dust-carried infection.

The young children themselves should be trained to observe strict habits of cleanliness and should have special table utensils set apart for their use.

I would like to draw attention here to certain malpractices which are admirably adapted to convey infection and which are unfortunately very popular, at least with us in Germany. In order to prevent the child crying it is too often the fashion to stuff into the child's mouth a "Lutscher" or rubber teat [the English "comforter"], an article which is not only thrown about in every direction by the child and then restored to its mouth without previous cleaning, but is often first wetted in the mother's mouth before finding its way into the child's. It is also a frequent practice, or rather malpractice, on the part of mothers or of persons nursing children to place the spoonful of food first between their own lips, either to test the heat or in order to encourage the children to eat.

Another really appalling custom of which adults are often guilty is to clean the child's face or mouth with their own, by no means always blameless, pocket-handkerchief, to say nothing of occasions when the article in question is first moistened with saliva in order the better to remove dirt from the infant's countenance. Finally, children should not in any circumstances be kissed on the mouth.

It is only in order to complete the tale of precautionary measures that I allude to the necessity for the adequate nutrition of children during the second age-period and to the obvious fact that milk should constitute the chief article of diet.

PERIOD OF SCHOOL LIFE.

I now come to the period of school life. A new factor of importance in regard to the protection of the child against the invasion of tuberculosis now comes into force.

In the age-periods so far mentioned the parents and the probably consulted physician were the only ones responsible for the care of the children; however, the dispensaries—so-called "Auskunfts- und Fürsorgestellen" (Information and Aid Stations), could and should take an active part in the campaign against tuberculosis. The importance attached to them in Germany is shown by the fact that their number, in the few years since their existence, has reached 1400. Their chief aims are the identification of already infected or threatened children in the families of consumptives; in this direction their work is particularly successful, as everywhere where a consumptive is discovered he is considered as a centre of infection, and a systematic examination of his whole surroundings is thereby made possible; repeated instruction of these families in the danger of infection, and the measures of prevention, and supervision of the carrying out of these measures, care for all possible isolation of the source of infection, and finally care of the curable and ascertainment of all possible means of support by public and private philanthropy. During the school period a fourth group also begins action—the school itself, and this includes the school doctors and the school teachers.

Before entering upon the special measures relating to the safeguarding of school children the question arises whether the school itself is free from blame in the spread of tuberculosis, and, if so, to what extent—whether, in fact, tuberculosis can rightly be included among the so-called school diseases. This question I would answer most emphatically in the negative. The possibility cannot be denied, it is true, that infection may be incurred through association with a diseased fellow scholar or teacher. But, as we have already seen, the seed of infection has almost invariably been implanted in the scholar before his entrance into the school, and the infective source has been his home environment.

During the compulsory school age, and particularly from the tenth year onwards, the infection thus acquired begins to manifest itself and to display definite symptoms of disease. But, generally speaking, the disease retains its closed character during school age, and therefore does not spread infection. Open tuberculosis is rarely encountered amongst school children, and then chiefly in large towns and industrial districts which display very crowded housing conditions. The danger, therefore, of incurring infection through school attendance is almost negligible.

Tuberculous Teachers.

How do matters stand, however, with regard to the danger of infection arising from association with tuberculous teachers? Unfortunately, no reliable statistics are as yet obtainable regarding the incidence of pulmonary tuberculosis among the teaching profession. But it may be accepted as a fact that a considerable number of masters and a still greater number of mistresses do suffer from this disease. It must also be admitted that a tuberculous teacher who often talks incessantly during the course of the day's work and who, when he walks about amongst the scholars, as he often does, must certainly discharge a fine spray of moisture laden with tubercle bacilli into the air of the class-room and upon the scholars assembled there, offers an undoubted agency for the spread of infection. But in spite of that I think that this danger is often greatly exaggerated.

In the first place, the healthy teachers are very largely in the majority. Further, the intercourse between the scholar and the teacher under modern conditions of clean and airy school-rooms is not nearly so intimate, neither is it so prolonged, as the intercourse between the scholar and his own family. Nevertheless, this gives us no valid ground for relaxing prophylactic measures against the spread of infection from this source. Both teachers and scholars who eject tubercle bacilli in the act of coughing should be rigidly excluded from school.

In Denmark there has long existed a law which orders that all tuberculous teachers must submit to a course of sanatorium treatment, and that if no permanent cure results from such treatment the commune may demand that the tuberculous teacher shall be pensioned with two-thirds of his salary.

In Prussia an Order of the Kultus-Ministerium dealing with the prevention of the spread of infectious diseases through the school was issued on July 7th, 1907, and has been adopted by several of the other Federal States of Germany. In addition to a series of precise regulations

relating to the cleansing of school premises, the Order contains the important clause that tuberculous scholars and teachers who fall under suspicion of harbouring tubercle bacilli in their sputum must have the sputum examined, and if it contains tubercle bacilli the scholars and teachers must be excluded from the school.

The proper carrying out of this regulation is attended by great difficulties. The teachers themselves are held responsible for getting their sputum examined. What happens, however, to a teacher whose sputum gives direct evidence of the presence of tubercle bacilli? If the State demands that he shall not be allowed to exercise his profession, then the State should also take care to provide ample opportunities for the teacher to undergo a curative course of treatment in a sanatorium, the teacher paying either nothing or fees having proper relation to his economic status. Such treatment is generally both lengthy and expensive.

And, further, what is the fate of the teacher whose sputum continues to harbour bacilli? The town council of Schoeneberg (Berlin) has ordered that within their own municipality such teachers are to be pensioned. As, however, pulmonary tuberculosis generally occurs early in life and after a very short period of service, the pension is so small that the unfortunate teacher cannot live on it, particularly if he is married. This leads to the inevitable consequence that most of the consumptive teachers, knowing the miseries of an inadequate pension that await them, do not admit the true nature of their condition either to themselves or to their authorities until concealment is no longer possible.

If the Order is to attain the object for which it was drawn up it will be necessary, first, to make suitable provision for members of the teaching staff who have fallen victims to pulmonary tuberculosis; and, secondly, to control the compulsory examinations of the sputum. What has been done on these lines hitherto is wholly inadequate.

It would be much better to institute stricter measures for preventing the appointment of tuberculous subjects as teachers. The most urgent demands in this connexion are—first, the inclusion of hygiene instruction in the syllabus of every seminary for school-masters and mistresses, such instruction also extending to the prevention and checking of tuberculosis; secondly, a careful medical examination of every candidate for the seminary and a watchful supervision over every pupil who attends the seminary; and, thirdly, a most important point, a thorough medical examination before appointment to teaching posts, accompanied by the rigid exclusion of all tuberculous candidates.

Tuberculous Scholars.

The admission of scholars suffering from open tuberculosis can readily be prevented by the general introduction of school medical service.

In Germany we have now more than 800 school doctors, and the value of their services has everywhere been recognised. The terms of the school doctor's office place a wide range of preventive measures against tuberculosis within his power. A successful campaign against this disease can only be consummated in coöperation with the careful organisation of the activities of the school doctor. To him alone is it given to prevent the development of latent tuberculosis into active disease in the children examined by him and kept under his constant watchful supervision. This he can achieve through the enforcing of general hygienic measures, through the agency of existing institutions providing appropriate treatment for delicate children, and through counsel and instruction given to the teaching staff, to the children themselves, and to their parents.

If I go into detail, then the foremost duty of the school doctor is to examine thoroughly *all* children before they are admitted into school. Those who already show symptoms of open tuberculosis must be dealt with according to the nature of each individual case and sent either to sanatoriums for pulmonary patients, to institutions for children suffering from "surgical" tuberculosis, or to lupus sanatoriums.

Children who exhibit retarded physical development must be kept back from school for a period. Those who are found to have, or who are suspected of having, latent tuberculosis are registered on special lists, or special cards are written out for them (Zähl-karten). These children are then recommended to the teachers and to the parents for particularly watchful care, and are re-examined by the school doctor at regular intervals.

The entering of precise data on these health records or cards is of untold value in the prevention of tuberculosis. They should contain, in addition to the findings of the school doctor, the statements of the parents, the reason for school absences, any facts that may be elicited through inquiries into the housing, nutrition, and economic conditions of the family, &c. To complete their utility these records should be continued even after school-leaving through educational agencies, &c., until the subject presents himself for compulsory military service.

Some time before the children leave school a medical examination should be conducted in the school, and, if possible, in the presence of the parents, with a view to deciding upon the choice of a suitable trade.

By means of school medical examination all children who are possible transmitters of infection are entirely excluded from school, while the suspected cases are carefully watched, every indication of progressive disease being at once recognised, and appropriate measures being promptly applied and persisted in as long as necessary. By so doing it is possible to increase their resistance to disease and often to prevent the development of latent tuberculosis into active forms. In dealing with such children the school doctor will avail himself of the various agencies at his disposal for sending them to holiday camps, to forest recreation camps (*Wald-erholungs-stätten*), to forest schools, and so on, or to institutions at the seaside or to inland spas.

It is of the first importance that the school doctor should conduct the medical examinations with requisite thoroughness, and to secure this it is essential that the necessary time should be placed at his disposal, which is unfortunately not always the case at the present moment when many school doctors are employed as part-time officers. In addition to the class examinations the school doctor should hold special consultations in the school building. These afford opportunities for arriving at a correct diagnosis in the case of delicate children, and are of value also in drawing the attention of the teachers over and over again to the fact that health disturbances occurring amongst the scholars, even when not sufficient to hinder school attendance, are never to be passed over lightly.

In conducting a preventive campaign against tuberculosis among school children, the object of medical examination is not only to separate the cases of manifest tuberculosis, but also to note the suspected cases and to examine scrofulous children with a view to discovering a tuberculous nidus. Where the children show signs of delicacy and malnutrition, as well as in other instances of faulty development, the home conditions and the health of the remaining members of the family and of house inmates call for special inquiry.

Wherever the smallest suspicion of tuberculous malady arises the newer forms of tuberculin tests, particularly von Pirquet's cutano-reaction, should be applied. Not only should unhealthy conditions of the chest and glands be regarded with suspicion, but skin diseases should always be carefully noted. In cases of nasal catarrh the mucous membrane of the anterior nares calls for watchful observation, as this is a favourite starting-point for lupus.

In investigating the housing conditions and the source of infection the aid of the dispensaries will be of great value.

Besides the class examinations and school consultations, parents' evenings, which have now been regularly instituted by several school authorities, offer excellent opportunities for the school doctors, either directly through simple lectures or in the course of less formal talks, to impress upon the parents the necessity for not neglecting even latent tuberculosis, and to point out its importance in relation to the future economic life of the scholar, and also to explain the various curative measures that may be employed.

Importance of School Medical Service.

I am convinced that the chief rôle in a preventive campaign against tuberculosis should be assigned to the school doctor. The office of school doctor should be a whole-time appointment, and only in exceptional cases a part-time duty, and the school medical service should be made general throughout the country. In that case it will be extended to all the higher schools, and not, as hitherto in Germany, almost entirely limited to the elementary schools.

The colleges for teachers should also be included in the school medical service as well as the trade and continuation schools. While it is the children belonging to the youngest

school classes who chiefly call for medical supervision in the elementary schools, in the higher schools it is the age of puberty which is chiefly associated with pathological phenomena, for which fact a too arduous programme of school work at a period of active physical development must be held at least partially responsible.

When we can point to a complete State organisation of school medical supervision over the whole of the school-attending section of the population—particularly during that period of life which is the most critical as regards the development of tuberculosis—and when this measure renders possible the discovery and recovery of a large number of persons who might otherwise have become a serious strain on the economic resources of the nation, then it will have to be acknowledged that the activities associated with the school medical service offer the best basis for carrying out a prompt and far-reaching campaign against tuberculosis as a national disease.

School Dentist.

There is one other factor of importance to which I can only briefly allude owing to time limitations. I refer to the school dentist. That we in Germany realise the necessity for his coöperation is sufficiently well known, and the number of school dental clinics is yearly increasing. The examinations into the oral conditions of school children, which are conducted on a very extensive scale, showed that practical measures are urgently called for, it being demonstrated that at least 90 per cent. of the children had affected teeth, and many out of that number exhibited teeth in advanced stages of decay.

Coöperation of Teachers.

The teaching staff should likewise be enlisted into the service. It is required of the teacher that he shall not only be a good pedagague and educator, but also a conscientious observer of the children entrusted to his care. He should carefully watch the children pointed out to him by the school doctor, both as regards their mental capacity and their physical condition. On observing some changes in a child, such as delicacy of appearance, listless carriage, or a falling back in school work, his first thought should be that the cause may be found in some bodily disturbance. He should report his observations to the school doctor, with whom he stands in continuous working relation, and the school doctor will then make further investigations.

Through being present at the medical examinations and through discussions with the doctor, the teachers soon acquire a better understanding of, and increased interest in, the health conditions of the children in general, and particularly as regards tuberculosis. They soon realise that any small inconveniences and added work that the school medical examinations entail are balanced by considerable lightening of the strain of teaching. They realise, above all, that the quality of the children's work depends largely on their physical condition, and that what appears to be laziness and indolence is really often due to some bodily ailment. What might formerly have called forth severity is now met with pity and kindly care, and the results are happier on both sides.

Through the increased opportunities for intercourse with the parents which arise from the system of health schedules and special cards the teacher also has it often in his power to exercise a good influence. It will often be permitted to him to gain an insight into home conditions, and thus he will understand much that hitherto was incomprehensible. He may also often be able to persuade foolish parents to listen to reason. The above-mentioned parents' evenings are particularly well adapted for this purpose.

But even if the special measures for the prevention of tuberculosis in schools must remain in the hands of the school doctors and teachers, it is none the less urgently necessary to secure the coöperation of the parents and of the scholars themselves. In striving to overcome a national pestilence it is essential that all factors should combine, and the sick and the healthy must all coöperate. In order to attain universal coöperation great attention must be given to the enlightenment and instruction of the general public.

Instruction regarding the prevention of infectious disease, particularly tuberculosis, together with lessons in general hygiene, should form an obligatory part of the school syllabus, and could best be incorporated with teaching in natural science. Such instruction is best administered by the school teachers, as they are better able than the doctors to adapt the teaching to each class level. At the same time the teachers should receive special training for this duty. This training should be given to them by members of the medical profession and should be conducted more and more in the seminaries, where hygiene, the prevention of infectious disease, and particularly of tuberculosis, should form obligatory teaching subjects and might well find a place in the examination syllabus.

School Hygiene.

For the sake of completeness I will briefly allude to the school buildings and to the schoolrooms, which must naturally conform to all the requirements of modern hygiene.

What is further required is a frequent and thorough cleansing of the premises, the daily maintenance of cleanliness, the banishment of the broom and the employment of wet-dusting in its place, or the use of dustless oils, frequent cleaning of the walls, and so on; adequate ventilation and lighting, the use of appropriate school furniture, the reduction of sitting work to a minimum, sufficiently long intervals, which are to be spent, when possible, in the open air, short lessons, and all the other well-known demands of modern school hygiene.

With regard to the prevention of tuberculosis in particular the following measures must be added. In order to attain due personal cleanliness a sufficient number of washing arrangements and shower baths should be provided and the children should be encouraged by the teachers to make frequent use of them. The common drinking-cup which may still be found in the older schools should be abolished, and drinking fountains substituted for it, or the children should be taught to bring their own drinking-mugs to school with them.

Children who cough should be taught to observe a strict "cough discipline"—that is, they must be taught to turn away their heads from their neighbours when they cough, and to hold a handkerchief before the mouth. Every schoolroom should be supplied with a sufficient number of suitable spittoons, and the children must be educated to make use of them.

Some lightening of school tasks should be permitted to children who give indications of latent tuberculosis; they should be exempt from certain classes, receive longer holidays, &c.

Children suffering from, or suspected of suffering from, open tuberculosis who cannot be sent to a sanatorium are best taught in special classes, particularly in large towns, where they occur in greater numbers. In the sanatoria, too, they should receive school teaching so that they may not be too greatly handicapped in future life.

In every respect the class teaching should always harmonise with the physical capacity of the children. The ideal of the school should be to produce the highest physical efficiency rather than the highest degree of intellectual attainment. A proper amount of bodily movement should always be promoted, and physical exercises and outdoor games should form part of the school programme.

CURATIVE TREATMENT.

The importance of preventive measures in relation to infectious disease is self-evident. But these must also be supplemented by curative treatment of the sick.

I wish, in conclusion, to say a few words about the treatment of pre-tuberculous, scrofulous, and tuberculous children. As a general measure it is most important that the power of physical resistance should be raised. It has been proved that in the case of children this is best secured by a stay in pure invigorating forest air, or, still better, at the seaside. With this object in view we have the forest camps, forest schools, night camps, and seaside homes, in which children can be accommodated. In the inland spas treatment with brine baths is added, and at the seaside hot or cold sea-water bathing. The latter requires to be very carefully regulated in the case of delicate children.

The curative value of sea-air is, unfortunately, by no means sufficiently taken advantage of, at least, with us in Germany. In particular a curious prejudice still exists, both amongst the medical profession and the laity, against utilising seaside resorts for winter treatment—and that in spite of the fact that experience has shown that the good results derived from a winter stay at such resorts are of a

more permanent value than those gained from a summer visit.

In order to secure satisfactory and lasting results it is essential that the stay should be sufficiently long, and the duration of the visit should be decided for each individual case by the doctor. Unfortunately, this point often meets with scant attention. It is a grave mistake, and one very often committed, to follow a routine practice of discharging the children after a stay of only four to six weeks. This practice results in only a temporary improvement, and is therefore bad economy in every respect.

The inland brine baths are of special value in bone and joint tuberculosis. The conservative method of treating these cases is now being commonly adopted. Latterly, such cases have been very successfully treated with direct sunlight in high latitudes. Where direct intensive sunlight is not available, the attempt has been made to substitute Roentgen rays for it. Dr. Breiger, a Berlin medical man, also claims to have obtained good results from treatment with a new quartz lamp constructed by himself.

If the disease is still in an early stage the children suffering from tuberculosis of the lung often derive much benefit from a stay at the sea, provided that the stay is long enough. But if these children are suffering from a more advanced stage of the disease, then it is most essential that they should be sent to inland sanatoria for treatment. But even if these sanatoria often achieve good results with such cases, the prognosis for children with open tuberculosis is generally an unfavourable one; the younger the children, the more unfavourable is the prognosis.

The curative treatment of all tuberculous children is based, of course, on hygienic-dietetic methods, these being efficiently supplemented by the administering of cod-liver oil. In more recent times it has become increasingly frequent to combine the above line of general treatment with a course of specific treatment with tuberculin. The particular kind of tuberculin to be employed is not of vital importance. Personally, I prefer the Koch preparations, and generally start with Alt-tuberculin and then employ the bacillary emulsions.

A point of much more importance is *how* the tuberculin is to be administered. It is now generally recognised that tuberculin treatment is productive of very good results, but that these results cannot reach beyond a certain limit, and that the success of the treatment depends more than any other form of treatment on the personal equation and on dosage. In regard to dosage, by far the greater number of practical workers adhere to the theory that a beginning should be made with very minute doses, and that a general reaction should be altogether avoided. But my own experience has taught me that nowadays the fear of producing a general reaction is being carried too far. The frequent failure to attain results is partly due, in my opinion, to the employment of too small doses on the part of timid clinicians.

At what stage should tuberculin treatment be commenced and which children offer suitable cases for its employment? As we must accept the theory that the specific resistance of the infected organism is raised through the injection of tuberculin, and that the effect of the invasion of the bacilli is thus checked, it follows that the tuberculin treatment should be started as early as possible. This is the best possible way of preventing closed tuberculosis from developing into open tuberculosis; it is especially in the earlier stages of the disease that the best and quickest results have been gained. As soon as a focus of infection had been diagnosed, if only with the aid of von Pirquet's cutano-reaction, a course of tuberculin injection should be at once proceeded with. And in order to render it impossible that any infected child should escape observation, it is the wisest plan to submit all children who live in the neighbourhood of a case of open tuberculosis to a von Pirquet test.

The only cases which should be excluded from tuberculin treatment are children who have already reached the more advanced stages of pulmonary disease. In all other cases it can at least be tried. You will shake your heads and think me a tuberculin fanatic. But I am far from being a fanatic on this point, only my long experience has converted me into a profound believer in the efficacy of tuberculin. If rightly employed, it is just amongst children that the happiest results are associated with its use.

I should like to add a word about the newest method of treating all forms of tuberculosis, the chemo-therapy method elaborated in Bonn by Professor Finkler, the eminent hygienist who recently died, and Gräfin Linden, the zoologist, and first published at the International Tuberculosis Congress held this year in Rome. This method consists in the use of methylene blue and various copper salts. These preparations are introduced into the system by subcutaneous injection, by internal application, and by inunction. The method is not yet sufficiently ripe for criticism to be passed on it, but the results of experimental treatment are awaited with great interest.

As the treatment of the children in the different institutions must necessarily stretch over a considerable time, it should be accompanied, as already stated, by a complete and regular system of school-teaching, the extension of which, however, to each individual case must be carefully regulated and supervised by the doctor. It is on these lines that the forest school education is conducted. The practice of introducing a systematic course of school teaching in sanatoria for children is now gaining ground.

The combat against tuberculosis amongst children imposes upon us a great task. If we take up the fight with energy and system, and in so doing perhaps succeed within a measurable distance of time in rearing a generation of tubercle-free human beings, then we may confidently hope that the day will also come when we shall attain our highest aim, and the most dreadful of all national pestilences will be banished from the face of the earth.

Post-Graduate Lecture

ON

MOTOR AND SPEECH PARALYSIS DUE TO CEREBRAL ANGIOSPASM.

Delivered at Edinburgh on Sept. 5th, 1912,

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INTRODUCTORY.

Definition.

GENTLEMEN,—Angiospasm is a spasmodic constriction of vascular channels, no doubt mainly on the arterial side, which implies that the wall of the blood-vessels is an active muscle structure. It also implies that such constriction can be limited in area, can be local as distinguished from general, and that we are entitled to think of spasm in cerebral vessels as sometimes focal and sometimes general, but not necessarily and always general.

Effects.

The effects of angiospasm depend upon the organ which is the seat of the condition. To-day I do not dwell upon angiospasm in the stomach or intestine, in the lungs, or in the heart's coronaries, but confine myself to the phenomena which we contend follow upon this condition in the brain.

I ask you to picture to yourselves what occurs during angiospasm. All spasm varies in degree or intensity, so you have to picture variable degrees of spasm in the muscular coat of arteries. All spasm here, as elsewhere, leads to diminution in the size of the lumen of the affected vessels, as the muscle fibres are arranged round the vessels with their long axes in the transverse way of the lumen. Such spasm, therefore, necessarily leads to a constriction of the lumen, and may be sufficiently pronounced practically to obliterate the lumen, so that neither blood corpuscles nor serum flow along it; at other times serum may pass and no corpuscles, or a single file of corpuscles may be driven slowly along. The degree of spasm determines, therefore, the measure of the anæmia of the affected area, and this again determines the intensity of the clinical phenomena, whether it be complete or partial loss of motor power, or of sensibility; while the portion of brain affected determines the character of the phenomena, whether motor, sensory, or mental.

As spasm tends to be temporary and evanescent, so the

phenomena the result of spasm tend to be evanescent; but if the spasm be continued and pronounced, softening results, and when softening ensues loss or impairment of function is permanent.

You realise, of course, that the symptoms are not due to vessel spasm *ipso facto*, but to the arrest of function from curtailment of blood-supply to the part. It is the anæmia which is the cause of the phenomena, and anæmia may be the result of thrombosis or embolism; spasm is only an additional cause, although we contend that it is a much more common cause than is generally recognised. I do not propose to labour the propositions that vessel spasm can and does occur, and that it may be confined to a limited area. We all know it in "dead fingers"—a solitary digit sometimes being pale and bloodless—in Raynaud's disease, and in the constriction of retinal vessels producing blindness.

Causes.

The causes of such spasm are, for instance, local cold; local heat, as in the stopping of uterine hæmorrhage by hot douching; nerve influences, as shown by the effect of emotion; and in the various angioneuroses. But there is another equally important group of causes—namely, where vessel constriction is brought about by direct action on the vessel wall, as is the case with adrenalin, digitalis, &c. In addition there seems to be no doubt clinically that waste substances retained in the blood act thus upon the vessel wall. That waste substances produced as the result of muscle activity accumulate and can affect muscle action has been shown by their paralysing action on muscle, while washing out the blood-vessels enables the muscle to re-manifest its function of contractility. As regards angio-spasm in the brain, I think it is probably caused by waste products irritating or stimulating the vessel wall directly, but later I shall again refer to this point.

Personal.

I ask you to permit me to make a little personal explanation here. Twelve years ago I drew attention to the cerebral symptoms associated with hypertonic contraction of systemic arteries and suggested a corresponding state of cerebral vessels to explain the symptoms. I supported the suggestion by the clinical observation that vessel relaxation induced by a vaso-dilator led to relief of the symptoms. I was not then, and am not yet, conscious of having borrowed this explanation from any source whatsoever. I have written a good deal on the subject since then, and I have also found some references to the phenomena in question accompanied by the suggestion that they were due to local vessel spasm or to temporary local anæmia. I claim, however, that my contributions to this subject have definitely drawn attention to it, and I hope established it as an interesting condition, the understanding of which is highly useful to the practical physician. I shall refer to the historical aspects of the subject under the various classes of phenomena with which I propose now to deal.

VARIETIES OF PHENOMENA.

Those cases which show motor symptoms may be regarded as exhibiting partial or complete abeyance of function in brain areas rather than irritation of areas. This distinction is of significance in so far as it may be taken as an evidence of impaired local nutrition—that is, of anæmia rather than of irritation. If we adhere to the postulate that the symptoms are due to anæmia of the affected areas—and I ask you to do so for the present at least, as otherwise I fear my argument cannot be followed—we shall understand that two factors will require to be kept in mind when dealing with individual cases—namely (1) the probable condition of the blood channels, and (2) the driving power of the left ventricle. Although my main thesis in this lecture is the anæmia due to vessel spasm, I must indicate to you that anæmia may be determined by atheroma or obliterative endarteritis associated with a feeble heart. I can illustrate this class of case as follows.

Feeble Heart Cases.

I had recently a patient in my male ward who had recurring attacks of inability to utter an articulate word, associated at times with slight paresis of his right limbs. The speech phenomena were present during the night, so that when he awoke he was unable to ask the night nurse for anything he wanted. As this man's general condition and heart power improved this disappeared. The explanation I offered of the speech phenomenon was that the brain vessels were almost certainly atheromatous, that the feeble circulation was at its feeblest during the night, and that the aphasia and paresis were due to local anæmia from the operation of these two conditions. That the explanation was reasonable was borne out by the cessation of the phenomena when the circulation became stronger and able to keep up a sufficient flow through his narrowed vessels—narrowed structurally, not by spasm.

In case the apparent novelty of my explanation should lead you to doubt its soundness, I may tell you that Brissaud in 1893 recorded the case of a woman suffering from heart failure who exhibited recurrent aphasia with right hemiplegia. At each relapse of cardiac asystole there was a corresponding return of the paralysis of the right limbs with transitory aphasia. In this case I venture to think there must have been atheroma of cerebral vessels as well as the recurring heart failure.

This case you will grant strengthens my position, and you will realise how important it is that cases of the kind should not be misunderstood. If such a case is regarded as one of "high blood pressure" with threatening hæmorrhage, and relaxing and depressant treatment is adopted, you realise the evil consequences which must follow on such a diagnostic error. It is stimulant and not depressant measures which are required.

Migraine and Temporary Paralysis.

I shall also not dwell on the association of migraine and temporary paralysis, as the association is now widely known. For historical purposes I want to state, however, that Ball, a French physician, described the case of a patient who suffered habitually from migraine, and who had 12 attacks of aphasia in nine months accompanied by slight paresis and convulsive movements in the right hand. He supposed these cerebral phenomena were due to a temporary anæmia. I do not know whether he is to be credited with atttributing the anæmia to angiospasm. These brain symptoms occur in migraine without arterial disease, while the hemianopia, which is not uncommon in migraine, is associated with angiospasm of the blind area in the retina, the blindness passing off when the vessels relax. That we should extend a corresponding explanation to the brain symptoms is inevitable, and surely highly reasonable.

Motor Paralysis and Aphasia.

This is the commonest type and forms the largest group of cases. It consists of persons usually at or beyond middle life, frequently giving unmistakable evidence of arterial thickening or of atheroma, and not as a rule showing heart feebleness. The group illustrates angiospasm in cerebral vessels affected by either atheroma or obliterative endarteritis. In passing, I would remind you that atheroma is common in cerebral vessels when its presence elsewhere is clinically negligible.

Transitory Hemiparesis.

I cannot do better than begin the consideration of this big group by reading a letter I received some six weeks ago from a medical practitioner in Southsea about a valued old friend of mine. He says: "I am writing you about Mrs. ——. A fortnight ago she suddenly lost power in her left arm and hand and lower extremity. This loss of power was transitory, and two days later there was no sign of it. Her blood pressure was 200. I kept her in bed for a week, gave small doses of calomel at night, advised light diet, and also gave her a grain of sodium nitrite and 10 grains of potassium nitrate three times a day. This brought her pressure down to 175." This letter was dated July 25th. I saw the lady on August 17th, and again on Sept. 4th. She was well, and had had no return of the symptoms mentioned. In this patient you will note that there was a high arterial pressure. This illustrates what you will often find—namely, that during an attack of paresis there is a marked heightening of the ordinary arterial pressure shown by the individual,—the result of the hypertonic contraction of the systemic arteries. The heightened pressure was readily lowered in this patient by the excellent measures adopted by her Southsea physician. It was the frequent association of such paretic seizures with hypertonic contraction of the systemic vessels, and the disappearance of the symptoms

when the vessels were relaxed by a vaso-dilator that led me to suggest that a like constriction of vessels in a brain area was the cause of the paresis in such cases.

Another illustration of this evanescent hemiparesis is afforded by a man, aged 47, who died in the Royal Infirmary five days ago. He was the subject of advanced kidney disease, but he was also aphasic, the aphasia presenting some very interesting features. The history we obtained was that three or four years ago he had "a shock" in which the right side of his body was paralysed, but from which he recovered. We were also informed that he had had similar attacks repeatedly, all of them apparently of short duration. He was admitted to my ward on May 25th, the aphasia having come on three days before that and lasting to the date of his death on August 31st. There was no other paralysis. He was treated as a kidney case, and it was of his kidney condition he died. In the brain there was an area of softening, about the size of a pea, far forward in the white pathway of motor speech, and no other lesion. Now this man had had several attacks of hemiplegia, from all of which he recovered, and none of which left any visible trace in his brain. The aphasia, which was permanent, was due to the permanent break in the communicating white fibres of his speech centres.

This is not the first brain I have seen from a patient who had had a temporary hemiplegia of which no trace was left in the brain, and I bring this last case before you as a further support to my contention that these temporary paralyses have an evanescent cause, and that the only reasonable explanation is the one I have offered you.

I would add to this that the site of angiospasm is very frequently in the great motor pathway, in or above the internal capsule. And if the question is asked why this position should be a common one, I can only answer that in my experience softening of grey cortex is not common; that the motor pathway, especially in or near the internal capsule, is the common seat of hæmorrhage and of softening. It would seem as if it were not the centre but the busy thoroughfare which is so apt to be damaged by either of these, and which I think is the seat of angiospasm also.

HISTORICAL.

I shall now endeavour to strengthen my contentions by pointing out to you that the explanation I have offered has been proposed before, although it has never attracted sufficient attention to make it of practical value to the practitioner in his work. The only British author who refers to the subject is Bastian: he quotes a case published by Daly in 1887 in which "recurring attacks of transient aphasia and right hemiplegia," lasting for from three minutes to three hours, occurred in an elderly gentleman. Daly supposed that the attacks were due to spasms of vessels brought about under the influence of gouty and uræmic poisons in the blood. Bastian himself, in view of this, suggests that "poisons circulating in the blood may lead to contractions of the small arterioles, thus temporarily cutting off more or less completely the blood-supply of cortical centres."

In 1886 Dr. George Peabody delivered an address to the Practitioners' Society, New York, entitled "A Contribution to the Symptoms and Pathology of Endarteritis Obliterans." He brought forward three cases, "not as something new," but as bearing upon the pathology of a condition about which little work had been done. One of these cases was a man, aged 56, who had an attack of transient right-sided hemiplegia. Then in the course of ten days he had four or five attacks of aphasia with incomplete hemiplegia. Finally, he died in a complete attack, in which he had complete right-sided hemiplegia with loss of consciousness. At the post-mortem examination there was found extensive endarteritis of the vessels of the brain, but no local lesion, œdematous areas, or focus of hæmorrhage. The arteries were diseased, but not sufficiently encroached upon to account for death. Commenting upon this Dr. Peabody states that death may result from this lesion—i.e., endarteritis obliterans—with striking clinical evidence of destruction of motor areas in the brain which necropsy reveals to be intact. He adds that "the only explanation which suggests itself is that, in addition to the partial obliteration of the area affected, there must have been a spasmodic contraction of the vessel or vessels which was sufficient to cause complete local arrest of the circulation. The duration of the spasmodic contraction varies. In some attacks it lasts only a few minutes; then all the symptoms pass away as rapidly as they came. In others the duration is prolonged to such an extent that life comes to an end before it ceases, and yet the duration may not be sufficiently prolonged to cause softening of the brain area affected." Peabody may have got the idea of brain arterial spasm from a paper by E. G. Loring in this same year (1886) on spasm of arteries of the retina causing temporary and permanent blindness.

Again, in 1891 Dr. Peabody, in a communication on the Relations between Arterial Disease and Visceral Changes, describes the same case and offers the same explanation. This later communication was made at a meeting of the Association of American Physicians. He again made no claim to the discovery, and in the discussion which followed this part of the paper seems not to have been touched by the members present, the gathering including Sir W. T. Gairdner and other British physicians.

Sir William Osler before the Canadian Medical Association in 1911 seems to have quoted Dr. Peabody's 1891 communication as the first statement of spasm of the arteries as a cause of paralysis, transient or otherwise, and appears not to have referred to the 1886 communication. How little this communication of Dr. Peabody influenced medical teaching or thinking is shown by the absence of any reference to this condition in Sir William Osler's excellent and popular book on the "Principles and Practice of Medicine" down to the 1909 edition, at least so far as I have been able to discover.

Now, gentlemen, I have supported my contentions by showing you that others have offered the same explanation of the phenomena in question as I have offered, and that, whatever credit may be due to me for having repeatedly written on this subject and so drawn the attention of my brethren to it, I no more, but rather less, than Dr. Peabody can claim to be the "discoverer." Sir William Osler, who made this subject the theme of a holiday lecture in Canada last year, claimed for Dr. Peabody what Peabody himself disclaimed.

To many of you the subject has, no doubt, the interest of novelty, and I hope you will be more ready to recognise its great practical importance when you know that I am not the *discoverer*, and that the explanation I have offered is at least as old as 1886, and was probably made in America.

There are many other interesting aspects of the subject that I cannot deal with to-day. I have had to confine myself to the motor phenomena caused by cerebral angiospasm, and these being the most common are perhaps the most important. At some future time I may deal with the more speculative aspect of this interesting subject.

AUSTRIAN GIFT FOR ST. BARTHOLOMEW'S HOSPITAL.—The late Lord Mayor of London, just before his end of office, received a letter from the Burgomaster of Vienna to the effect that the Vienna Councillors, in acknowledgment of their recent reception in London by the Lord Mayor and Corporation, had voted 5000 kronen to any charitable object in the City which Sir Thomas Crosby might select. The Lord Mayor has sent the contribution to St. Bartholomew's Hospital. A donation by the Prague Councillors was made to the Mansion House poor-box before they left.

VICTORIA UNIVERSITY OF MANCHESTER.—Dr. A. E. Boycott has been appointed to the chair of Pathology, vacant through the resignation of Professor J. Lorrain Smith on his appointment to the chair of Pathology in the University of Edinburgh. Dr. Boycott became Fraser Research Scholar in 1899, proceeded to the degree of M.D. in 1904, and had a distinguished career as a student at St. Thomas's Hospital. He was Gordon Lecturer in Pathology at Guy's Hospital, and afterwards was for two years on the staff of the Lister Institute of Preventive Medicine, before returning to Guy's Hospital as Lecturer in Pathology. The following appointments have also been made: Lecturer in Obstetrics and Gynæcology, Dr. W. E. Fothergill, in addition to Dr. A. W. W. Lea, who already holds the position of lecturer in these subjects; assistant lecturer in the same subjects, Dr. W. Fletcher Shaw; Lecturer in Clinical Obstetrics and Gynæcology, Dr. W. K. Walls.

ON THE RESPIRATORY NEUROSES.[1]

BY SAMUEL WEST, M.D. OXON., F.R.C.P. LOND.,
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The respiratory movements in hemiplegia.—In 1894 Hughlings Jackson directed attention to the alterations in the respiratory movements observed in hemiplegia. He stated that there was a marked difference in the cases between ordinary quiet breathing and deep or forced breathing. Thus, on ordinary breathing, if any difference between the two sides was to be observed, it was that the movements on the affected side were somewhat increased, whilst on deep or forcible breathing the movements of the affected side were markedly diminished. From these facts he drew the following conclusions. That the respiratory movements are of two orders—the one automatic, chiefly diphragmatic; the other voluntary, chiefly costal; and that they have their controlling centres in different parts of the nervous system—the automatic in the medulla (the so-called respiratory centre) and the voluntary in the brain, the fibres from which run in the same tract as those to the limbs. Thus, when a healthy person is lying in bed and breathing quietly, the movements are abdominal or diaphragmatic. If told to take a deep breath the type of respiration is entirely altered; the movements cease to be abdominal and become almost entirely costal; in other words, the automatic centre is inhibited and the control taken over for the time by the higher voluntary centres.

About three years ago I had a very interesting case of hemiplegia, which exhibited many of the changes described in a remarkable degree. I show the tracings obtained. (Fig. 1.) On ordinary quiet breathing little difference was

FIG. 1.

Tracing showing the movements of the two sides of the chest in a case of right hemiplegia. The straight lines show the parts of the tracings which correspond. The tracings show that on ordinary breathing the hemiplegic side moves less than the sound side; on forced breathing (coughing, C) the curves are inverted. R, Right side. L, Left side.

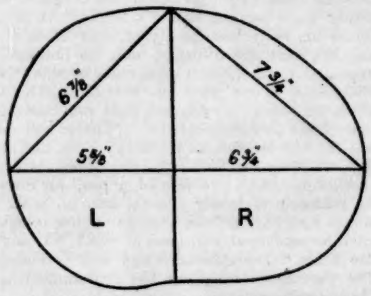
to be seen between the movements of the two sides, but what difference there was was against the affected side. On the patient being told to take a deep breath the differences became very considerable. They were most remarkable when the patient coughed. Then the deep inspiration which was the prelude to the cough was well marked on the sound side, and almost absent on the affected side. At the time of cough the expiratory contraction was well marked on the sound side, but absent on the affected side; and the intercostal spaces on this side, offering no muscular resistance, were violently forced out. This gave a very peculiar feeling to the hand placed upon the side, and showed itself upon the tracing in a very remarkable inverted curve.

I take the opportunity of showing, although it does not bear directly upon the subject of discussion, the alteration in shape of the affected side of the thorax. (Fig. 2.) This was markedly flattened, from which we may conclude that the normal shape of the chest is the position of equilibrium between the two sets of opposing muscles. When these muscles are paralysed the side flattens. It is possible that the actual shape may vary with the position in which the patient may happen to be lying. It is obvious, of course, that the respiratory movements are, and must be, very largely under direct and immediate cerebral control. What Hughlings Jackson maintained was that this control must be represented in some cerebral cortical centre, as are the other voluntary movements of the body. I believe that it must be in these higher respiratory centres that the explanation of the respiratory neuroses must be looked for.

[1] The introduction to a discussion on the subject at the Medical Society of London on Nov. 11th, 1912.

The neuroses of the respiratory organs fall into two groups, according as they are, or are not, associated with, or lead to, dyspnœa and its consequences—viz., cyanosis and suffocation. In the first group those with dyspnœa and cyanosis are found: (1) asthma; (2) laryngismus stridulus

FIG. 2.



Tracing showing the flattening of the right (hemiplegic) side. Measurements are given in inches. R, Right side. L, Left side.

and some other laryngeal spasms; and (3) whooping-cough. In the second those without dyspnœa or cyanosis are found: (4) paroxysmal tachypnœa; (5) the air-hunger of diabetes mellitus and the allied condition in uræmia; and (6) periodic respiration in its two forms—viz., grouped respiration and Cheyne-Stokes breathing.

1. *Asthma.*—When speaking of asthma I mean, of course, spasmodic asthma or true idiopathic asthma, and I do not include any other forms of paroxysmal dyspnœa, often incorrectly called asthma, for these have entirely different pathological causes and run different clinical courses. Asthma is a widespread spasm of many groups of the respiratory muscles. The chest is almost fixed in the position of deep inspiration, the diaphragm depressed and almost immobile, and the bronchial muscle contracted. These are all coördinate phenomena, and no one of them can be regarded as the primary or initial cause, to which the others are secondary. This in especially true of the spasm of the bronchial muscle, for though the bronchial muscle exists and is probably in a condition of spasm, there is no proof that this alone is capable of producing all the phenomena of asthma.

In an attack of asthma the respiratory rhythm is entirely altered. The breathing is slow, with a greatly prolonged expiratory phase. The post-expiratory pause is absent and a post-inspiratory pause present instead. The inspiratory muscles are in full action, but there is little or no expiratory recoil, and the dyspnœa which results is obviously the result of the restricted ebb and flow of air due to the defect of expiratory contraction. The passing off of the attack is indicated by the slow and gradual return of the expiratory movements. It may sometimes pass off as suddenly as it came on, but as a rule recovery is slow, as it must be if the spasm has been of any duration, for elastic and muscular tissue kept long upon the stretch loses its tone and only slowly regains it. Although as the result of repeated attacks the nutrition of the lungs may suffer and chronic bronchitis and emphysema result, still asthma stands in no other necessary relation with these two diseases.

The extraordinary fact about asthma is the variety and multiplicity of causes which evoke an attack. Yet the individual must be asthmatic—that is, predisposed—for the same irritation which excites an attack in such an individual will have no such effect in a normal person. It is this underlying predisposing condition which is the essential factor in asthma. This cannot be seated in the respiratory centre in the medulla, but must be looked for in centres above this, possibly in the brain itself, though we do not know where. We might call this the asthmatic centre.

Assuming such a predisposition or centre, we may construct a diagram showing the various exciting causes of the attack. (Fig. 3.) An exactly similar diagram could be constructed for epilepsy, showing a similar variety of exciting causes and involving a similar central predisposing condition, though, of course, it could not be called a centre. Asthma bears a close

resemblance to epilepsy in other respects. Thus it is often preceded by some definite premonitory symptom, answering to the aura of epilepsy, and the removal or treatment of it may ward off an attack of asthma just as the treatment of the aura may prevent an epileptic fit.

Again with asthma, as with epilepsy, after an attack the patient may be exposed with impunity to the cause which at other times would without fail excite an attack. Like epilepsy, asthma is often hereditary or runs in families, and may give evidence of itself in the early years of childhood. It stands also in close relation with some other neurotic conditions, many of them hereditary and running in families,

FIG. 3.

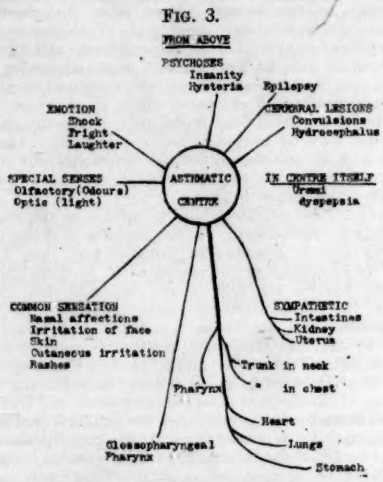


Diagram of exciting causes of asthma.

such as paroxysmal sneezing and coryza. As epilepsy, except when associated with organic disease of the brain, is bilateral, so asthma affects both sides, and unilateral asthma is unknown.

A remarkable fact about asthma is that the development of organic disease of the lungs on the one side or of the central nervous system on the other may lead to the disappearance of the asthma to which the patient till then had been subject. Thus I have known a patient, asthmatic for years, to develop phthisis about the age of 45, and never have an attack of asthma afterwards. So, too, asthma may alternate with epilepsy and insanity. A very remarkable series of cases of this kind was published some years ago by Savage and Conolly Norman,[2] of which I mention a few in abstract as examples.

A woman, aged 34, without any insane inheritance, had been a patient in an incurable hospital for some years with chronic asthma. She became for the second time insane, and lost her asthma. She continued insane until an attack of asthma came on and then began to recover. During convalescence she had but few attacks of asthma, but when well the asthma returned with greater violence than ever.

A female, aged 28, with a history of insanity on the mother's side and of phthisis on the father's, became asthmatic at the time of menstruation and continued so for six years, when she became insane. During her insanity she was free from asthma, but with mental health the asthma returned. She had two subsequent attacks of insanity with the same sequence of events.

A man, aged 28, with a history of insanity on both sides, suffered from asthma for seven years, for which he took large amounts of morphia. He then became insane but free from asthma for seven months. The asthma then returned and the patient recovered his senses, and remained mentally well, but subject to asthma.

Salter described a remarkable case in which asthma alternated with epilepsy, and was on each occasion preceded by the usual aura, the only difference being that asthma sometimes followed instead of the fit. Similar instances have been recorded of the alternation of asthma and hemicrania and of asthma and hysteria. These and similar considerations lead, necessarily it would seem, to the conclusion that the asthmatic condition must be of central localisation, and that asthma must therefore be regarded not as a respiratory disease but as a central respiratory neurosis.

2. *Laryngismus stridulus* is generally recognised as standing in very close relation with fits, and it has even been described as a laryngeal convulsion. This also, then, by the same process of reasoning, may be presumed to be a respiratory neurosis of central origin. I have seen laryngeal spasm occur in the course of hysteria, as a transient phenomenon, alternating with other functional affections of the larynx—e.g., with adductor paralysis. Strange to say, in this case there were attacks of transient paralysis of one half of the diaphragm.

3. *Whooping-cough.*—It may seem rash without discussion to place whooping-cough among the respiratory neuroses. Consideration of all the facts of the disease appears to warrant the conclusion that whooping-cough is an infectious zymotic disease, the stress of which falls chiefly on the upper respiratory centres. This is associated with local manifestation in the air-passages in the form of a peculiar or specific catarrh, many of the pulmonary changes being the mere mechanical results of the violent coughing.

I now pass to the second group of respiratory neuroses—viz., that in which there is no interference with the aeration of the blood, and consequently no cyanosis or suffocation.

4. *Paroxysmal tachypnœa.*—This has been called hysterical asthma. Asthma it certainly is not, and hysterical in this connexion means nothing more than emotional or functional. The condition is very interesting and remarkable, and, I believe, rare. The attacks often come and go with great abruptness. During the attack the respirations may be very rapid, even reaching 100 or more in the minute, and may be considerably in excess of the pulse beats. I have seen the respirations 100 while the pulse was only 80. The breathing is noisy, panting, or puffing, the face is flushed, the cheeks and lips rosy red, with no trace of blueness. The air passes freely in and out of the lungs, and the movements are all exaggerated. The attacks seem to cause no distress. Yet if a normal person tried to breathe at the rate of 100 even for one minute the effort would be found to be considerable, and after another minute or so would become exhausting. Yet attacks of tachypnœa may last from 2 to 3 hours and may recur at short intervals, so that the whole period of liability may extend to several weeks. The condition is strictly comparable with tachycardia. In each the attack may begin and end in the same curiously abrupt way without apparent cause, and the patient appears to be hardly conscious of the condition, and to suffer little or no distress from it. The patients are usually young, nervous, emotional women. I do not remember ever to have seen tachypnœa in a man. The attacks do not seem to be in any way under the patient's control or to be capable of being evoked spontaneously.

Tachypnœa must be regarded as a condition of disease, and as strictly pathological and so far important, though it has not the serious significance that tachycardia often has—I have never seen it lead to any serious result or associated with any definite nervous or physical defect. Paroxysmal tachypnœa should, therefore, be placed among the respiratory neuroses in a category by itself, just as paroxysmal tachycardia is among cardiac disturbances.

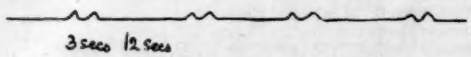
5. *The air-hunger of diabetes mellitus and uræmia.*—In the air-hunger of diabetes mellitus the respirations are greatly accelerated, free, and deep. The noisy puffing and panting have suggested the name of steam-engine breathing. The lesion is one of the respiratory mechanism affecting the higher respiratory centres, and not of the respiratory organs, and this is confirmed by its association, sooner or later, with coma. The development of the full stage is often preceded by various respiratory disturbances, such as sighing and irregular breathing, which may come and go, and give an indication of what is threatening some time before it comes. The onset is in most cases abrupt, sometimes extremely so, the patient passing in the course of a few minutes into the condition described. The coma comes on more gradually, so that for some time the patient, though showing the typical air-hunger, is quite conscious, and capable of mental effort, and apparently is but little distressed. Similar symptoms, though rarely so marked, may arise in the course of uræmia, but they are, as a rule, less sudden, and more often preceded by irregularities of respiration. In both cases I suppose the exciting cause must be some chemical body, but its nature is unknown, and the difficulty in either case is to explain its sudden abrupt development.

6. *Periodic respirations.*—The respiration may become irregular from various causes, but for the most part these irregularities are themselves of irregular recurrence. But sometimes these irregularities recur at regular intervals, each

[2] THE LANCET, June 10th, 1893.

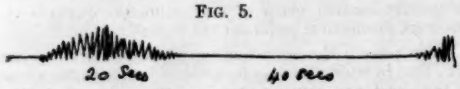
group of irregularities presenting the same general characters. This peculiar breathing is called periodic or grouped respiration. Of periodic respiration there are two special types—the one well known as Cheyne-Stokes breathing; the other not so generally recognised, and termed grouped respiration. The two types stand in the strongest possible contrast with one another, as the two tracings clearly show.

FIG. 4.



Tracing of grouped respiration. Two respirations in 15 seconds = 8 in minute.

FIG. 5.



Tracing of Cheyne-Stokes breathing. Forty respirations in 20 seconds; respiration-rate = 120 in minute.

Grouped respiration.—In grouped respiration the respirations are slow, and number not more than from 8 to 12 in the minute, occur in groups of two or three, are of equal depth and regular in frequency, while the intervals between the groups are comparatively short. This form is rarely seen except in the coma stage of meningitis in childhood, especially so far as my experience goes in the posterior basic form. It is an interesting phenomenon, but is in itself of no special significance.

Cheyne-Stokes breathing.—In Cheyne-Stokes breathing, on the other hand, the respirations during the breathing stage are extremely rapid. This phase may last 20 seconds, and during that time the respirations may number 40—i.e., be at the rate of 120 a minute. The striking peculiarities of Cheyne-Stokes breathing are the crescendo and diminuendo of the respirations in respect both of depth and noise, and the long pauses which follow the breathing phase, which may last 40–45 seconds.

The prognostic significance is equally strongly contrasted in the two cases. Thus grouped respiration is simply an interesting phenomenon in the course of a serious nervous affection, of itself likely to prove fatal, but disappearing if the disease should run a favourable course. It has, therefore, no special or grave significance. Cheyne-Stokes breathing, on the contrary, is of the gravest possible significance, and may of itself give warning of what is to be the result, when there might otherwise seem to be no special reason for alarm.

Cheyne-Stokes breathing is described as occurring in a very great variety of pathological conditions, but they all fall into two main categories: (1) where it occurs in the course of some disease or morbid condition of the central nervous system above the medulla; and (2) where there is heart failure of some kind, usually of the left ventricle. Cheyne-Stokes breathing has been described, though a rare occurrence, in *healthy persons*, during sleep, after great fatigue, or in advanced life. It has also been present as a personal or family peculiarity in healthy persons who have lived to a good old age. Besides this it has been met with after the use of certain drugs—e.g., bromide of potassium, chloral and morphia, and others, disappearing after the effect of the drugs had passed off. In *animals*, again, periodic respiration more or less closely resembling Cheyne-Stokes breathing has been observed during sleep and hibernation, after muscular fatigue, after the administration of many drugs, and in experiments upon the medulla and brain, or upon the heart and circulation.

Interesting as all these observations are, and important as they may be in the attempt to find a general explanation of the phenomenon, they should not be introduced into the consideration of Cheyne-Stokes breathing as a pathological and clinical condition.

When Cheyne-Stokes breathing is observed in men it may be concluded that the patient is probably suffering either from heart failure or from some disease or morbid condition of the central nervous system above the medulla and pons. Yet it is not a necessary accompaniment of any affection in either group, and is, in fact, far more often absent than present in all of them. It must therefore depend upon some accidental condition which is more likely to arise in one of these two groups of affection than in any other. But what the condition is there is nothing yet to show.

Various phenomena have been associated with the different phases of Cheyne-Stokes breathing, such as change in the rate, tension or general characters of the pulse, alterations in the pupils, variation in the dyspnœa and cyanosis, but none of these are constant in all cases alike, or, indeed, in the same case at different times, while they may each and every one be entirely absent, so that no one of them can be the essential or determining cause. They must all be merely accidental, and the result of the morbid condition to which the Cheyne-Stokes breathing itself is due. It follows that all explanations which pre-suppose any of these phenomena must fall to the ground.

Cheyne-Stokes breathing, after being well marked, may intermit and disappear for a time entirely, the respiration returning to the normal. More often the characteristic features are incompletely developed. Thus the pauses may be very short or absent, while the crescendo and diminuendo of breathing may be well marked, or the breathing may be regular and but little accelerated, yet there may be at regular intervals intermission of two or three respirations, or their place be taken by a long-drawn sigh. At other times the breathing may be irregular, but not periodic. Lastly, the pauses may be present at certain times only—for instance, during sleep, but, on the other hand, they may also occur only when the patient is awake.

From all these considerations we arrive at the conclusion that the automatic centre in the medulla is doing its work well, though in a somewhat unusual way, but that its action is hampered or interfered with, so that the cause must be looked for not in the medulla but in some part of the nervous system above that level, and therefore probably in the brain itself, and this view is confirmed by the fact that with definite organic disease of the medulla and pons Cheyne-Stokes breathing is unknown. Under these circumstances the general cerebral and mental condition of the patient becomes of interest, and this is best observed in the cardiac group, when the patient is generally not unconscious. It is remarkable that the patients themselves seem to be but little disturbed by their peculiar breathing, and, indeed, to be unconscious of it. Thus, they may stop speaking in the middle of a sentence when the pause comes on, and complete the sentence after the pause is over, without seeming to be aware of the break, though the intelligence may be clear. If told to breathe or made to speak during the pause, they do so with an effort, and only after bringing into play the extraordinary respiratory muscles. So that it is evident that it is the voluntary respiratory centres that are chiefly affected or hampered in their action.

The general consideration of each of the respiratory neuroses alike seems to lead to the same conclusion—viz., that it is not the respiratory centre in the medulla that is at fault, but some higher coördinating centres possibly in close relation with the other centres of volitional action, and therefore presumably in the cortex of the brain. In this connexion the physiological considerations with which the paper opened are of importance. It is obvious that a view of this kind is likely to modify considerably the lines of treatment to be adopted, but to discuss this now would take me too far afield.

Wimpole-street, W.

DONATIONS AND BEQUESTS.—By the will of Mrs. Alice Millar, of Holloway Sanatorium, Virginia Water, the testatrix bequeathed £5000 each to the Royal London Ophthalmic Hospital, the Cancer Hospital, and the Royal Society for the Prevention of Cruelty to Animals.—A gift of £1000 has been received by the town council of Campbeltown for building an addition to the infectious diseases hospital with the object of accommodating consumptive patients.—Prince Christian has sent a cheque for £1557, the balance of the Windsor Memorial Fund to the late King Edward VII., to the chairman of the King Edward VII. Hospital, Windsor.—Mr. Austen Chamberlain has received £250 from the Union-Castle Steamship Company towards the £100,000 he is raising for the London School of Tropical Medicine.—A cheque for £1000 has been received by the treasurer of the St. Mary's Hospitals, Manchester, from Mr. Edward Graham Wood, of Salford and Southport. It was decided to name one of the beds after Mr. Wood's granddaughter, "The Sada Joyce Holden Bed."—The Chelsea Hospital for Women has received donations of £52 10*s.* towards its rebuilding fund from Sir Samuel Provis, K.C.B., and Mr. George Millington.

REMARKS ON THE TREATMENT OF SARCOMA OF THE LONG BONES.[1]

BY SIR FREDERIC EVE, F.R.C.S. ENG.,
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MY remarks on the treatment of sarcoma of the long bones must necessarily, owing to the short time at my disposal, be mainly concerned with general principles. The sarcomata fall, for purposes of treatment, into three groups: (I.) periosteal sarcomata; (II.) central sarcomata composed of round and spindle cells; (III.) myeloma (myeloid sarcoma). The last-named must be differentiated from the diffuse or generalised hyperplasias of medullary tissue met with in albumosuria and other affections, and to which the term "myeloma" is also applied.

I.—*Periosteal Sarcomata.*

The periosteal sarcomata spread locally along the periosteum, endosteally through the medulla, and also along the muscles attached to the affected bone. Extension into the veins is so early that in many cases, especially of sarcoma of the femur and humerus, metastases are already present when the patient first comes under observation. Sarcomata of these bones frequently involve the axillary and femoral glands respectively.

Amputations in periosteal sarcoma must remove the affected bone in its entirety, and if possible the whole or a considerable part of the length of any muscles attached in the neighbourhood of the tumour.

Owing to the rapid growth of sarcomata of the humerus, the fact that they usually originate in the upper third, and their tendency, wherever arising, to involve the whole length of the bone, the interscapulo-thoracic (Berger's) operation will be required, except in the rare instances in which there is a growth confined to the lower third, when amputation at the shoulder-joint may suffice. Butlin[2] states that "there is no tendency to affection of the axillary glands," but the truth of this I doubt.

Notwithstanding arguments in favour of non-intervention based on the failure of treatment, I think that a patient with periosteal sarcoma of the femur should be given the remote chance afforded by amputation at the hip-joint. The immediate danger of the operation is slight. I have since 1896 performed 11 consecutive amputations at the hip-joint without a death. We can only hope that in the future the practitioner who first sees the patient, assisted as he is by the X rays in diagnosis, will send patients for surgical treatment immediately, and that our statistics may thereby be improved. The femoral lymphatic glands are often palpably enlarged, and I have for many years been in the habit of removing them in the preliminary stage of the operation. The anterior racket incision has been used, the artery and vein being tied, and the glands dissected out through the first incision. In tumours situated high up in the femur I have dissected the attachments of the muscles cleanly from the os innominatum. The practice of a preliminary ligature of the main vessels, the injection of cocaine into the nerve-trunks before division, and other methods of combating shock, have greatly diminished the immediate mortality in high amputations at the shoulder and hip. I have frequently injected saline and brandy directly into the femoral vein before closing the wound.

The common periosteal sarcomata of the upper third of the tibia and those of the upper third of the fibula, together with rare tumours of the same nature in the forearm (usually in the upper third), should be treated by amputation at the lower third of the thigh and humerus respectively. In tumours of the lower third of the leg amputation through the knee-joint may be done. Considerable enlargement of the femoral glands in growths of the middle and upper third of the tibia has been noted by me. These have been removed, and although the pathologists reported that the enlargement was not due to malignant disease, I must own that I received this information with scepticism.

Sarcomata of the ribs are rare. They may now be dealt with safely owing to the recent methods of opening the pleura.

In regard to microscopic structure, after admitting that the round-celled sarcomata are the most malignant, I agree with Butlin that the metaplasia of part or the bulk of the tumour into cartilage or bone does not affect its malignancy, and therefore does not modify the treatment.

II.—*Central Sarcomata Composed of Round, Spindle, or Mixed Cells.*

We owe our knowledge of the lower degree of malignancy of central tumours, together with much more in the natural history of malignant diseases of the bones, to the painstaking work of Butlin. Their relative benignity must be ascribed to their being surrounded by a capsule of bone, but we must not overlook the fact that in many instances there is a wide infiltration of the medulla, and in some the bony capsule has been broken through. When this has occurred they should, I think, be treated on the same lines as periosteal sarcomata. Otherwise it would appear safe to amputate through the affected bone some distance above the disease if it occupies the distal end, or through the joint immediately above if it occupies the proximal end of the bone. Central tumours of the lower end of the radius and ulna are less malignant than those of other bones. Butlin quotes[3] a case of spindle-celled sarcoma of the lower half of the ulna which was treated by erasion, and the patient was well two years later; and again,[4] a case of spindle-celled sarcoma of the external condyle of the femur treated by resection. The patient was in good health three years later. On the other hand, in an example of central sarcoma of the upper epiphysis of the femur, the patient died from the operation, and was found to be already suffering from metastases.[5] The tumours under consideration are rare, and therefore the experience of individual surgeons is very limited. If we are to learn more of the later histories of patients, it must be by a combined system of registration at the various hospitals by which the patients are followed up.

I offer the above remarks on the treatment of this group in a tentative manner, and hope to learn the opinion of other surgeons. These growths, if well localised, and especially if spindle-celled, offer a tempting field for resection and the employment of the various methods of osteoplasty to be alluded to later.

III.—*Myeloma (Myeloid Sarcoma).*

Although it has long been taught that the true myeloma has a low degree of malignancy, yet it is only in recent years that it has been recognised as possessing, at least in some situations, a purely local malignancy. Butlin, even in 1900, classes the central round- and spindle-celled sarcoma with the myelomata under the common heading of central tumours, in discussing their treatment. The broad general statement made in most text-books that the myelomata are only locally malignant requires, however, considerable modification. The myelomata of the femur, and especially those of the upper end of the humerus, are sometimes followed by metastasis. According to Butlin's statistics, the tumours were giant-celled sarcomata in three out of five patients who died with metastasis after amputation of the femur for central sarcoma.[6] And in two out of three unsuccessful cases of sarcoma of the upper end of the humerus two were described as myeloid sarcoma. Both died from metastasis after the performance of Berger's operation. Kausch[7] describes a case of myeloid sarcoma of the upper end of the humerus, treated in 1902 by resection and implantation of two sterilised portions of humerus. Recurrence necessitated amputation at the shoulder joint. Death occurred from metastasis 11 months after the first operation.

Our London Hospital statistics throw little light on this question, as all the cases involving the femur and humerus were treated by amputation. They, however, emphasise the benignity of myeloma of the tibia and fibula. Mr.

[1] A paper read before the Surgical Section of the Royal Society of Medicine on Nov. 12th, 1912.

[2] A writer in American Practice of Surgery expresses an opposite view.

[3] The Operative Surgery of Malignant Disease, p. 52.
[4] Op. cit., p. 52.
[5] Op. cit., p. 51.
[6] Op. cit., p. 53.
[7] Op. cit., p. 694.

L. J. Austin has only been able to trace for me 7 cases during the 10 years 1902–1911 inclusive. They were as follows: Myeloma of the upper end of the humerus, amputation at shoulder-joint, well after 3 years; of the lower end of the femur, amputation at hip-joint, well after 8 years; of the lower end of the femur, amputation in middle third of the thigh, well after 3 years. Two cases of myeloma of the upper end of the tibia and 2 of the fibula were all treated by local removal, 3 by resection and 1 (tibia) by erasion. They were all well at periods varying from 1½ to 8 years. I examined a microscopic section from all these cases but one (femur).

As far as I can judge, this difference in nature depends rather on the seat of the disease than on the structure of the tumour. The nearer the body the greater the malignancy would appear to be true of the myelomata, as well as of the periosteal sarcomata. I have examined sections of all the myelomata treated at the London Hospital since 1904, and find a very fair uniformity in their structure. It must be admitted, however, that one example of myeloma of the head of the humerus looks very malignant. There are a large number of myeloplaxes lying among oat-shaped spindle and a few round cells; and I do not observe the tendency to fibrillation or the formation of fibrous tissue apparent in most myelomata. This patient was, however, well three years after amputation at the shoulder joint. I suspect that the old statistics have been made less favourable by the inclusion among myelomata of a certain number of round- and spindle-celled tumours containing a few multinucleated cells such as are present in many rapidly growing neoplasms.

In the long bones the myelomata are met with so frequently in four situations that their occasional recurrence elsewhere is negligible in considering their treatment. These situations are the epiphyseal extremities of the upper ends of the tibia and fibula, the lower end of the femur, the lower end of the radius, and the upper end of the humerus. Their frequency (excepting the fibula) is in the order named; and it may be noted that these are the epiphyses which are the last to unite to the diaphyses. The treatment adopted must depend on the size and extent of the tumour and its locality. The following operations are employed: (1) erasion; (2) resection; (3) amputation.

1. Erasion may be adopted in tumours of moderate size, when the bony walls are intact and sufficiently strong to bear pressure after the removal of the tumour. The cavity, if moderate in size, may best be filled with paraffin having a melting-point of about 110° F. This sets sufficiently hard at body temperature and is easier to manipulate than a paraffin with a higher melting-point. I have also used gelatine and iodoform successfully. Larger cavities may be filled with decalcified bone-chips, or better with chips taken from a recently amputated limb. There is very free hæmorrhage from the cavity, even if of quite moderate size, so that the use of an elastic tourniquet should not be neglected. The walls should be swabbed with pure carbolic or touched with Paquelin's cautery.

2. Resection. This will usually be required in myelomata of the bones of the lower extremity where the osseous wall is so thinned that it would collapse or "concertina" after removal of the growth. It might also occasionally be resorted to in quite early growths of the upper end of the humerus. Myelomata of the lower end of the radius and the upper ends of the tibia and fibula (especially the radius) are by far the most favourable for treatment by erasion or resection.

3. Amputation immediately above the tumour may be required when the disease has penetrated the bone and widely infiltrated the soft parts. It must be especially borne in mind that conservative treatment is much less likely to succeed in myeloma of the upper end of the humerus and in both ends of the femur for the reasons given above.

The true myelomata can usually be recognised by their slower growth, distinct delimitation, the absence of infiltration of bone, their maroon-red colour, and often the presence of pulsation at some point. A surgeon about to operate for sarcoma, especially if it be a central tumour, should have a microscopist in attendance for the purpose of making a fresh section. The appearances of a myeloma are so characteristic that a fresh section will suffice, but in certain cases it may be advisable to postpone operation until a more careful microscopic examination of a portion of the tumour has been made. I am of opinion that the danger of infection of surrounding tissues by an exploratory incision has been much overrated. Even if a tumour turns out to be a very malignant one and implantation in the incision occurs, the affected area would undoubtedly be removed.

I may mention incidentally three cases of myeloma treated successfully by erasion or resection:—

In a man, aged 35, I removed with the surrounding tissues a myeloma of the upper end of the fibula which had freely burst through the capsule of bone. The microscope showed that the muscles were infiltrated with round cells and myeloid cells. He was quite well eight years and four months afterwards.

A man, aged 22, was treated for a myeloma of the head of the tibia by erasion. He was well five and a half years after.

A young married lady was treated for myeloma of the lower end of the radius by resection of the lower extremities of the radius and ulna and shortening of all the tendons of the wrist. She was well 12 years after, and could use her hand—the right—for writing, sewing, &c.

The recent advances in the surgery of transplantation of bone, cartilage, and even of joints have opened up a new field for the treatment of myelomata in selected cases. A portion of bone from the same individual may be utilised (autoplasty) or from an amputated limb or a corpse (homoplasty).

In the first category the fibula has been widely used, especially in resections of the upper end of the tibia. After the removal of the diseased portion of tibia, the upper end of the fibula is driven into a hole made in the head of the tibia (if it has been left) or into the lower end of the femur. At a later operation the fibula is cut across lower down and driven into the distal end of the tibia.

I am able to show a young woman from whom I removed by resection of the upper third of the tibia a large myeloma which had spread widely among the surrounding structures. The femur and tibia were united by bolting them together with a portion of the patient's own fibula, a gap of nearly 2 in. being left between them and the limb thereby lengthened. The later skiagrams appear to show that there is a new formation of bone beneath the periosteum of the implanted fibula. It is now a year and seven months since the operation; there is no recurrence and she can walk with a poroplastic support, but the union is not firm and the shortening amounts to 4½ in. I attempted to get greater solidity by separating a portion of the anterior margin of the tibia, carrying it across the gap, and pegging it into a groove in the femur. If I had the opportunity again I should graft in a portion of tibia covered with cartilage. Janeway took a fragment of tibia from the same individual to replace 5½ in. of ulna resected for sarcoma. A defect in the radius resulting from osteomyelitis has been successfully filled by separating a portion of ulna and twisting it on the interosseous membrane into the gap.

When autoplastic grafts are used the periosteum of the graft should be preserved. It is stated that the periosteum lives, while the bone itself dies and is absorbed, but is gradually replaced by new bone formed by the periosteum of the graft and the medulla of the bone into which it is grafted (Lexer, Axhausen). The truth of this appears, however, to be controverted by an instance of transplantation of dead bone carried out by Kausch.[8] He removed the head of the tibia with its periosteum for myeloma and grafted 8 cm. of a tibia from an amputated limb. The graft was previously deprived of periosteum and medulla and treated with alcohol, ether, and boiling water. Amputation was performed for recurrence nine months later. A longitudinal section of the bone showed that the graft was necrotic and without apparent trace of organisation, but was surrounded by a complete mantle of periosteum continuous with that of the pre-existing bone. Under the microscope could be followed the two processes of destruction and reconstruction, the newly formed periosteum penetrating cavities in the bone.

Küttner,[9] of Breslau, has published three remarkable

[8] Beiträge zur Klinischen Chirurgie, 1910, 8. 670.
[9] Centralblatt für Chirurgie, No. 29, 1911.

cases of malignant tumours of the lower extremities in which bone and articular surfaces of corpses were used for grafts. Two cases were chondro-sarcomata of the upper end of the femur. The upper third of the femora together with the heads of the bones were removed and the parts replaced by grafts of corresponding extent. Union of the graft to the grafted bone took place and the hip-joints were moveable. The first patient died from metastasis 13 months after the operation. In the second recurrence occurred, and a spontaneous fracture of the graft, which, however, united. In a third case described as a malignant chondroma (? chrondro-sarcoma) involving the upper end of the tibia, the affected portion of bone with the articular surface was resected and replaced by a corresponding graft taken from a corpse. Healing took place with a fistula, but the knee-joint could be bent to an angle of 45° and the patient could stand and walk without an apparatus. In one case the subject from whom the graft was taken died as long as 24 hours before the operation. Ivory pegs were used to fix the graft to the grafted bone in the first case; and portions of fibula were employed to bolt the bones together in the other cases.

It is quite evident from the above brief summary that grafting has a future before it; but we need not fear that in this country enthusiasm for experimental surgery will lead us to perform such unjustifiable operations as resection of periosteal sarcoma of the femur.

I have been especially asked to make some remarks on the treatment of sarcoma of the long bones with Coley's fluid. Coley advocates the use of this fluid, first, in cases of sarcoma of the long bones in which operation means a sacrifice of the limb. If no improvement is observed at the end of two or three weeks he advises operation. He writes that the greatest value of the toxins in sarcoma of the long bones would be shown to lie in a judicious combination with conservative operative treatment. In sarcomata of the myeloid type particularly, partial operations can be safely substituted for amputation. Secondly, he considers the use of the toxins as a prophylactic against recurrence as offering by far the most important field. Thirdly, he employs the fluid in cases of inoperative sarcoma. I have the pleasure of being personally acquainted with Dr. Coley, and was greatly impressed by his enthusiasm and candour. It is impossible to gainsay such statistics as the following "Final Results of Cases of Sarcoma in Various Situations"[10]:—

"Seven remained alive and well at the end of 15 to 18 years; 7 remained alive and well at the end of 10 to 15 years; 17 remained alive and well at the end of 5 to 10 years; 10 remained alive and well at the end of 3 to 5 years. That is, 41 cases remained well from 3 to 18 years, or 31 from 5 to 17 years.

As to the correctness of the diagnosis in these cases, they were practically selected cases—i.e., selected by the leading surgeons of America, as hopeless, inoperable cases. In all these cases, with the exception of four, the diagnosis was confirmed by careful microscopical examination in most cases, not by one, but by several of the most competent pathologists."

Yet it is astonishing that, as far as I have been able to ascertain, anything at all comparable to these successes has not been met with elsewhere.

Mr. L. J. Austin, one of our surgical registrars, has been at much trouble in looking up the cases in which Coley's fluid has been given at the London Hospital. The treatment has been started in many cases, but has been discontinued for various reasons. All cases are excluded unless ten or more injections were given. They number only ten. In seven there was absolutely no result. One, a recurrent sarcoma of the front of the thigh, nearly disappeared, and I removed it; but the man came back in less than a year with metastasis in the orbit. In two cases of recurrent sarcoma of the muscles of the thigh and of the nose respectively, both got slightly smaller, but the latter subsequently died.

In his paper before this society in 1909,[11] Coley gives his results in nine selected cases of sarcoma of the long bones, in all of which the tumour disappeared. Two cases of periosteal sarcoma of femur in which no operation was performed—one well after seven years, and one died from metastasis one year latter. Three cases of periosteal sarcoma of femur treated by amputation—all well after three years. A spindle-celled sarcoma of the tibia, recurrent after excision; it disappeared under toxins, and the patient was well ten years later. He also quotes three cases of myeloma which disappeared; of these, two were well four years, and the other one year after their disappearance. Two of them were not operated on.

At the London Hospital we have treated five cases of periosteal sarcoma without the slightest result on the tumour. Three were lost sight of, one died within the year, one case of periosteal sarcoma of the lower end of the femur is well 29 months after a hip-joint amputation. In this case and another case of round-celled chondro-sarcoma of the tibia treatment was carried out most thoroughly in my wards with toxin kindly sent by Dr. Coley.

My own experience as regards the prevention of recurrence by Coley's fluid has been most disappointing. For it happens that, in the only three cases in which I have seen a striking diminution of the tumour, but where local removal was subsequently performed as freely as circumstances would permit, in two local recurrence took place, and in one (already mentioned) metastasis.

It is undeniable that a certain number of sarcomata disappear under, or are profoundly influenced by, the toxins, but we have no means of determining what proportion this is to the total number treated. I suspect it is only a small proportion. Although I may be forming an opinion on insufficient evidence, yet my present attitude is that I would not recommend Coley's fluid in any case of operable sarcoma, nor would I recommend it as a prophylactic against recurrence.

Harley-street, W.

[10] Surgery, Gynæcology, &c., August, 1911, p. 174.
[11] Proceedings of the Royal Society of Medicine, vol. iii., No. 1.

RESULTS OF COMPLETE REMOVAL BY OPERATION OF TRANSPLANTED MOUSE CANCER.

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UPON several occasions we have drawn attention to essential points of difference between the general characters and clinical history of malignant tumours produced by grafting in mice and other animals and those of primary malignant growths.[1] The experiments here described were undertaken in order to compare the results of removal by operation of tumours produced by grafting with the results of the removal by operation of primary malignant growths.

All the mice operated upon bore tumours which were growing rapidly and showed no signs of spontaneous disappearance. Most of the tumours measured from 17 × 18 mm. to 31 × 25 mm. No mice were included that died from the effect of the operations. Those included in the results were all perfectly free from any signs of a recurrence more than a month after the operation. After the month, and before the end of three months, 7 died from other causes without any signs of a recurrence. The rest showed no signs of recurrence at the end of three months.

The total number of mice operated upon which survived the operations was 43, and in all of these a permanent cure was effected. The following are the principal facts connected with this series of experiments.

Of the 43 mice operated upon for the first time there was no recurrence in 33 (76·7 per cent.). In the remaining 10 there was a recurrence which had reached on the average the size of 5 × 5 mm. in ten days. In these the growth was very much more rapid than in the original tumours, a point already observed by Paine and Nicholson, who were experimenting to elucidate the causes of recurrence after

[1] C. E. Walker: Science Progress, July, 1912. H. E. Whittingham: Journal of Pathology and Bacteriology, vol. xvii., 1912.

operation.[2] The 10 mice in which the tumours recurred were operated upon for a second time, and there was no recurrence in any of them. Thus in the whole of the 43 (100 per cent.) the tumours were successfully removed. In no case were there more than two operations, and in the majority (76·7 per cent.) the first operation was successful.

That there should be a certain proportion of recurrences after operation in the case of these tumours is to be expected on purely mechanical grounds. In the majority of instances the size and weight of the tumour are more than half that of the whole body of the mouse from which it was removed. In 35 out of 43 (81·4 per cent.) the peritoneum had to be opened. Every case of recurrence was one in which the peritoneum had to be opened. With the tumour with which we were working grafting was successful in practically 100 per cent. of the mice, and it is exceedingly difficult in operating upon these large tumours always to avoid injuring the capsule, in which case some living tumour cells are very likely to be re-inoculated. None of the mice died from the effects of the second operation, which is to be accounted for by the fact that in these cases the tumour was smaller and more easily removed. The anæsthetic used in all cases was chloroform. The instruments were sterilised by being kept in absolute alcohol. Silk was used for all stitches. Collodion and cotton-wool were used as dressings. We never had a septic case.

It is not necessary to emphasise that nothing like 100 per cent. of permanent cures by operation in 43 consecutive cases of malignant growths, as well established and in as advanced a stage as were these mouse tumours, can be produced with regard to cancer in the human subject. We attribute this difference in behaviour on the part of these tumours to the fact that it is always surrounded by a capsule, and that the inflammatory reaction in the surrounding tissues of the host, produced by the operation of grafting, is always in advance of the multiplication of the cells of the graft. In tracing the sequence of events following the introduction of a tumour graft into a mouse we have found that the inflammatory reaction in the surrounding tissues begins almost at once. Whilst not a single tumour cell shows any signs of dividing until more than 24 hours after being introduced into the animal, the inflammatory products have by this time completely surrounded the graft. Long before the tumour cells have begun to multiply actively the products of inflammation have already cut them off effectually from the rest of the body of the animal. This accounts for the rarity of metastases with these tumours produced by grafting. We have only upon one occasion out of several thousands found anything that could possibly be construed as a metastasis, excepting in cases where emulsions of tumour cells have been used for inoculation instead of a solid piece of tumour. As has been pointed out elsewhere,[3] the so-called metastases that have been found in cases where an emulsion has been used may be readily explained as the result of the mechanical distribution of the cells at the time of inoculation.

Another factor in the different behaviour of the grafted tumours to that of primary malignant growths probably lies in the fact that repeated transference from one host to another has subjected the cells to a process of selection which has produced a race possessing somewhat different characters from those forming a primary growth.[4] Briefly, on such removal only those cells will survive the process and continue to multiply which possess the greatest capacity for resistance to a new environment. The continued transference from individual to individual must accentuate these characters, as thus a continuous process of selection is kept up. At the same time other characters which are not the objects of selection disappear. The result is a race of tumour cells possessing many more of the characters of independent organisms than did those of the primary growth, and which live upon the host much as grafts do upon plants. They do not tend to invade the surrounding tissues, and excepting when they reach an undue size in proportion to that of the animal upon which they live do no harm and produce little or no inconvenience. That the characters of the cells of these graftable mouse tumours are subject to selection can be demonstrated.

[2] Surgical Interference in Cancer, Brit. Med. Jour., July 22nd, 11.
[3] Whittingham, loc. cit.
[4] Walker, loc. cit.

ON THE DUTY OF THE PRACTITIONER IN CASES OF OPHTHALMIA NEONATORUM.[1]

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As a preliminary I may be permitted to state a few points concerning ophthalmia neonatorum, about which there is nowadays no serious dispute among those well qualified to judge.

In the first place, every case of ophthalmia neonatorum is due to the inoculation (direct or indirect) of the baby's eyes with infective maternal secretion conveyed to the conjunctival sac before, during, or after the act of birth. The malady, then, is not the outcome of "cold," "draught," or "glare" as was once seriously taught.

Infection of the eyes, as a rule, does not take place while the baby's head is traversing the maternal passages. In fact, vaginal infection is rendered difficult for two reasons: first, because the junction between the eyelids is for all practical purposes watertight; and, secondly, because it is usually shielded by a thick layer of vernix caseosa. Infection is more likely to be brought about in the second stage of labour by the direct action of the perineal edge, as first pointed out by the late Dr. P. H. Mules, of Manchester.[2] During the passage of the fœtal head through the external orifice the anterior edge of the perineum, at that moment a tight, elastic, curved cord, presses upon the baby's eyelids and deposits infective secretion between them. But in the common run of cases infection takes place after the birth of the baby. Soon after the head is born infective material reaches the conjunctival sac, either by the repeated blinking of the baby or by the baby infecting his own eyes by rubbing them with contaminated knuckles. Another way whereby disease is conveyed to the eye is by the use of the same water in the first bath for both face and body.

In two-thirds of the hospital cases the gonococcus lies at the root of the mischief, but the proportion is probably smaller in private practice. The pneumococcus is responsible for one-tenth of the cases as met with in hospital, while the bacterium coli causes about one-twentieth of the whole. The scientific diagnosis can be made only by the bacteriological examination of the discharge from the baby's eyes, so that the first thing to do when called to a case of ophthalmia is to prepare films from the secretion, and either to examine them for yourselves or else to get somebody else to do so. It is important to note that all the micro-organisms associated with ophthalmia neonatorum are known to occur in the genito-urinary passages of pregnant or parturient women, and that the same microbes have been found in the male urethra. In the ultimate analysis every case of ophthalmia may therefore be said to have originated from the male.

Most instances of acute ophthalmia in the baby originate from a chronic or latent gonorrhœa in the mother, the importance and frequency of which were not recognised by the medical profession until the appearance of Dr. Emil Noeggerath's famous work in the year 1872.[3] In this respect, then, ophthalmia resembles acute urethral gonorrhœa, which (according to Neisser) is generally contracted from a chronic case. It is known that the processes of pregnancy, childbirth, and the puerperium may rouse into harmful activity the gonococci which lie at the root of many a chronic urethritis, metritis, or endocervicitis.

Of all the forms of ophthalmia neonatorum that associated with the gonococcus far outweighs the others both in frequency and importance. For all practical purposes it is the only one likely to be attended with danger to sight. Finally, of all the causes of blindness ophthalmia neonatorum still remains the commonest. It accounts for at least one-third of all cases of blindness in British blind schools and asylums.

Passing now to the proper subject of this lecture, the duties of the medical practitioner in dealing with cases of

[1] A lecture delivered at the Queen's Hospital for Children, London, on Oct. 31st, 1912.
[2] Medical Chronicle, January, 1888.
[3] Die Latente Gonorrhœa im Weiblichen Geschlecht.

ophthalmia neonatorum may be described under the following three heads: (1) Prevention, (2) Notification, and (3) Treatment.

1. *Prevention.*

Almost every case of ophthalmia neonatorum may be prevented if proper steps be taken. The sole exception to this statement is to be found in cases where infection has been conveyed to the eyes before labour has commenced, or at least before the advent of the second stage, the so-called antepartum ophthalmia. This form of the disease, however, is by no means common. Recent investigations have shown that the disease is quite as common in confinements attended by medical men as in those looked after by midwives. This is a sorry state of things when we recall the fact that the malady is eminently preventable. For my own part, I find that of 62 cases of ophthalmia neonatorum seen by me in hospital practice a medical man had been in attendance upon the mother in 37—that is, in more than one-half. Substantially the same evidence is forthcoming from some other quarters, both in this country and in America. For example, Mr. Stephen Mayou investigated 162 confinements complicated with ophthalmia, and ascertained that 90 had been attended by medical men and 72 by midwives. In America, indeed, the circumstances appear to be even worse. Writing some 33 years ago, Dr. W. O. Moore[4] found that of 500 cases of ophthalmia only 50 had been delivered by midwives. Nor do matters seem so have improved materially in the interim to judge from the report issued last year by the Massachusetts Eye and Ear Infirmary.[5] "The medical men of Massachusetts and not midwives," says the report, "are responsible for blindness due to ophthalmia neonatorum," and, it continues, "out of 388 cases under observation at this infirmary 360 had been attended by physicians and only 10 by midwives." In New York, where ophthalmia neonatorum is compulsorily notifiable, 40 per cent. of the births are attended by midwives, and yet nearly twice as many infections are found in the practice of the physicians as of the midwives.[6]

In view of this most serious indictment I urge upon the medical profession that preventive measures be adopted in the case of every baby born alive. The occurrence of the disease, in my opinion, reflects no credit upon whoever is in charge of the labour. It implies, indeed, a degree of laxity that is likely to add little to the reputation of those immediately concerned. Until this point is fully appreciated, I am convinced in my own mind that no material progress will be made in the prevention of the disease.

By the rules of the Central Midwives Board a midwife is compelled to adopt certain simple precautions to prevent ophthalmia in all cases of childbirth, and any neglect to do so is likely to be visited by condign punishment. The Board is resolved to secure the strict observance of its rules, and has expressed its determination to punish any slackness in that respect "even in cases where no harm can be proved to have followed from their neglect."[7] The position is therefore somewhat anomalous. For, on the one hand, midwives are compelled to adopt measures to prevent ophthalmia, and, on the other, medical men are bound by no such obligation. Yet the precaution has been shown to be no less necessary in the one case than the other; and in England the number of confinements attended by the two classes is stated to be approximately equal.

At the risk of some repetition I again urge that preventive measures be adopted by medical men at every birth, wholly irrespective of the social status of the parents. Since it is now recognised that a proportion only of the cases of ophthalmia is due to a venereal cause, the stigma once perhaps implied in those measures no longer exists, and with it the last shadow of an excuse for not adopting them in every case.

In considering the steps to be taken, we may distinguish between two classes of case: (1) where the existence of gonorrhœa is, and (2) where it is not suspected. The prophylactic measures should differ in the two classes. In cases presumably normal as regards danger of ophthalmia neonatorum it will suffice to cleanse carefully the infant's eyelids after the head is born, and, if possible, before the eyes are opened, with bits of clean material, as cotton-wool, gauze, lint, or rag, using separate pieces for each eye. Every particle of adherent secretion should be carefully wiped away from the skin of the eyelids. The material employed for the purpose is best moistened with some indifferent and non-irritating fluid, as, for example, saline or boric lotion. No attempt, however, should be made to squeeze any of the liquid into the eyes. This simple aseptic method is based, of course, upon the view that in the common run of cases infection reaches the baby's eyes soon after the head is born. Should the causal micro-organism have gained entrance during or before the second stage of labour, it is almost bound to fail. The mere fact that it generally succeeds is an argument against the frequency of infection prior to the birth of the baby.

With regard to the other class of case, the conditions that should suggest more stringent measures of prophylaxis may be summarised as followed: (1) The presence in the mother of a coloured discharge from the genitalia, of pus in the urethra, of scalding in passing urine, and finally, of local redness or tenderness; (2) the fact that the husband had suffered from gonorrhœa; and (3) the history that other children in the family had developed inflamed eyes shortly after birth.

Now in these cases the most trustworthy plan is to employ some germicide which, when dropped into the baby's eyes, will destroy or render inert any gonococci that may have gained entrance. By common consent, the best of those agents is a 1 per cent. solution of silver nitrate, of which a single drop is placed in each conjunctival sac as soon as possible after the head is born, and after the eyelids have been cleansed in the way already described. For this purpose there is no necessity to evert the eyelids. The objection to the famous Credé solution (a 2 per cent. solution of silver nitrate) is that even the most correct employment of the silver drop is usually followed by discharge from the eye and less commonly by redness. On the other hand, the 1 per cent. solution is equally efficient, and its use is followed by less reaction. Other agents are argyrol (15 per cent.), protargol (10 per cent.), and sophol (5 per cent.). They are used precisely like the silver nitrate, and are seldom followed by any marked reaction as regards the eye.

Additional precautions to be adopted in every case of childbirth are: first, to cleanse the baby's hands and wrists soon after birth, so as to prevent auto-inoculation of the eyes; and, secondly, to take care that the attendant does not use the same water for the baby's face and body in the course of the first bath.

A point somewhat apt to be overlooked by the practitioner is to inspect the baby's eyes at each visit with at least the same care as he would take the mother's temperature, or feel her pulse, or inquire into the state of her bowels. For this purpose the infant should be placed in a good light, and note taken of any redness or swelling of the eyelids, or discharge from the eyes. It is of the utmost importance to detect the disease early, and as soon as ophthalmia shows itself not a moment should be lost in getting the case under treatment. More than once I have been told that a practitioner has prescribed breast-milk, or some quite inefficient lotion, for a grave case of gonococcal ophthalmia. I am not alone in that experience. To quote from a communication by Mr. E. Treacher Collins:[8] "Sad to relate, cases in which delay in the application of appropriate treatment has resulted in permanent damage are met with where the mothers have been attended by a duly qualified medical man, and not by an ignorant midwife."

To recapitulate, then, a medical man should employ some consistent measure of prophylaxis in every confinement, and he should, furthermore, be on the watch for the earliest symptom of disease.

2. *Notification.*

That the malady should be notified was one of the recommendations of the British Medical Association Committee on Ophthalmia Neonatorum (1909), over the deliberations of which I had the honour of presiding, and it was repeated by the Departmental Committee on the Midwives Act (1909), before which I gave evidence. Stoke-upon-Trent was the first borough to make notification compulsory (August 28th, 1909), and by the following August, 50 sanitary districts had adopted notification, including the boroughs of Chester, Chorley, Macclesfield, Manchester,

[4] Medical Record, Sept. 30th, 1879.
[5] Medical Review of Reviews, July, 1912, p. 455.
[6] Report of the Committee on Prevention of Blindness of the Council on Health and Public Instruction of the American Medical Association, 1912.
[7] Circular dated December, 1909.
[8] Practitioner, 1902, Part I., p. 440.

Neath, Norwich, Rotherham, St. Helens, and Wimbledon. On March 13th, 1911, the London County Council ordered that the compulsory notification of disease should apply in the administrative county of London to ophthalmia neonatorum. Since then the example has been imitated by a number of the larger English and Scottish cities. Where the Act has been extended to ophthalmia, as in London, the duty of the practitioner, therefore, is to report to the proper authority every red or discharging eyes in newly born babies.

Apart from this notification, which affects medical practitioners, the Central Midwives Board requires midwives to advise that medical help be obtained in every case of inflammation of the baby's eyes, no matter how slight. The midwife treats such a case at her own peril. The advice must be given in writing on a prescribed form, and a copy must be sent within 24 hours to the local supervising authority. Any neglect of this rule is severely dealt with by the Midwives Board.

As to a medical man's duties under the Notification of Births Act, 1907, which (where adopted) has an important indirect bearing upon the prevention of ophthalmia neonatorum, I need say nothing in this place.

3. *Treatment.*

When called to a case of ophthalmia a practitioner's first duty is to inspect the cornea. The prognosis of a given case depends not so much upon the severity of the ophthalmia as upon the transparency or otherwise of the cornea. A clear cornea justifies a relatively but not an absolutely good prognosis. Discharge should be gently wiped or washed away, and then by separation of the eyelids it is often possible to see the cornea, or at all events the lower half, the part most liable to be affected by ulceration. In difficult cases a pair of metal retractors must be employed to expose the parts. The utmost gentleness must be employed in introducing those instruments, the blades of which should be smeared with pure vaseline before they are placed under the eyelids. In really severe cases, known to have existed for some time without treatment, much circumspection should be exercised in making the examination, for the swollen lids may conceal an ulcerated cornea on the point of bursting. More than once I have had the mortification of witnessing the crystalline lens escape from such an eye during the manipulations necessary for a proper inspection of the parts. Under these circumstances much the better plan is to conduct the examination under chloroform.

Another element in prognosis, as already pointed out, is the presence or absence of the gonococcus. At the same time a practitioner should not await the results of a bacteriological examination before adopting efficient treatment. Indeed, it is a good working rule to regard every inflamed and discharging eye in a newly born baby as of gonorrhœal origin until the contrary is proved. Yet a third element in prognosis is the state of the baby's nutrition and whether he was or was not born at term.

"Who cleanses well, cures well," is an old saw that might have been coined to sum up the treatment of ophthalmia in babies. Cleanliness is indeed the first, and almost the last, word on the subject. As soon as discharge is seen it must be washed away with some lotion that can by no possibility harm the structures of the eye, and thereby interfere with nature's attempts to heal the disease. For this purpose we have many agents at our disposal, such as saline (1·4 per cent.), boric acid (saturated solution), mercury oxycyanide (1 in 4000), and potassium permanganate (1 in 3000). Very weak sublimate (1 in 6000 to 1 in 10,000) is employed by many surgeons. A few words of separate description may be devoted to hydrogen peroxide, which possesses striking detergent properties, very valuable in these cases, and also, as I think, curative powers as well. One reason that formerly militated against anything like the general use of hydrogen peroxide was the unstable nature of the product, as well as the fact that the ordinary commercial varieties were seldom, if ever, free from acid. Merck, of Darmstadt, has overcome these drawbacks by the introduction of 30 per cent. "perhydrol"—that is to say, a pure and acid-free hydrogen peroxide, not subject to spontaneous explosion, and capable of being kept almost indefinitely in the original bottles. On filling the conjunctival sac with "perhydrol" the pus is decomposed with the evolution of gas, and it is then a simple affair to wash away the débris with any ordinary lotion. I have had excellent results in these cases from "perhydrol," pure or diluted with an equal quantity of freshly boiled water.

It is by no means a matter of indifference how the selected lotion is used. A first rule is to employ all such agents at about body temperature. For my own part, I do not advise a syringe, since an eye may be damaged by its careless use, and injected fluids are apt to spurt in all directions, and particles of infective discharge may in that way reach the eye of doctor or nurse. The objection to squeezing lotion into the conjunctival sac from a piece of absorbent cotton, employed like a sponge, is that extraneous micro-organisms from the attendant's fingers may gain entrance to the infant's eyes. The best plan is to use an "undine"—i.e., a glass flask with pointed spout—and to protect its nozzle with a short length of indiarubber tubing. The "undine" is filled with lotion, and while the baby's eyelids are held open the conjunctival sac is flushed out with the fluid. This process is repeated as soon as any discharge has collected, which is tantamount to saying that in a really severe case the douching must be kept up at intervals day and night. On an emergency an ordinary eye dropper, the end of which is protected by rubber, or a small teapot, may be used

Between the ablutions, as described above, the conjunctival sac should be filled with pure vaseline or with bleno-lenicet. The latter is a salve which contains from 5 to 10 per cent. of lenicet (basic aluminium acetate) in euvaseline, an ointment basis of white vaseline, lanoline, and ceresin.

In addition to the most scrupulous cleanliness and the use of bleno-lenicet we employ some stronger remedy capable, if not of killing the gonococci, at least of inhibiting their further development. Until recently silver nitrate of the strength of 10 grains to the ounce of distilled water was employed almost universally for this purpose, and this very efficient remedy is still popular. But in order to apply it to the greatest advantage the baby's eyelids must be everted and the solution dropped or painted over the exposed conjunctiva. Now that is by no means an easy thing to do in a baby, whose naturally small eyelids are rendered stiff by œdema and slippery by discharge, and it is assuredly not a method of treatment that can be safely relegated to the average female attendant. The silver treatment must, in fact, be carried out by the practitioner himself once or twice in the 24 hours, according to the gravity of the case. Hence it has been widely recognised that it would be preferable to employ some remedy that could be simply dropped into the inflamed eyes. Silver nitrate cannot be used in that way to any advantage, because it is at once chemically decomposed and rendered clinically inert by the sodium chloride of the tears and secretion. In point of fact, silver may be said to act only where it touches. Certain of the organic compounds of silver, as argyrol, protargol, and sophol, labour under no such disadvantage. When dropped into the conjunctival sac they permeate the parts, at it were, without undergoing any chemical change, and that is why they are preferred to silver nitrate by some ophthalmic surgeons, myself among the number. There is the further important consideration—namely, that their application causes no pain to the infant. In the treatment of an ordinary case, therefore, argyrol (25 per cent.) should be dropped into the inflamed eye every few hours, after all traces of discharge have been removed by "perhydrol" or in other ways. Only should the disease prove rebellious to argyrol do I personally resort to silver nitrate, 2 per cent., and the more profuse the suppuration the oftener may the silver be applied.

Even under the best conditions an average case of gonococcal ophthalmia will last for several weeks, and as long as pus is secreted gonococci can usually be demonstrated. The treatment outlined above must not be stopped prematurely, since that is merely to invite a recurrence, with the possibility of corneal mischief. When little remains beyond a trace of discharge and residual thickening of the palpebral conjunctiva, drops which contain 1 grain of zinc chloride to the ounce of water often suit better than anything else, the reason being that secondary inoculation with the Morax-Axenfeld diplo-bacillus is common at that stage.

The management of corneal complications, particularly the earlier ones, opens up important questions. As a rule, the practitioner will be well advised to call in expert assistance. The routine treatment is to employ a solution of atropine

sulphate (2 to 4 grains to the ounce) applied to the eye two or three times a day, and to continue the treatment by argyrol or silver. I have again and again seen eyes go from bad to worse when treated in this somewhat perfunctory way. My personal preference is for physostigmine (eserine) as an everyday method of treating the corneal complications of ophthalmia neonatorum. A solution of eserine sulphate (2 grains to the ounce) is dropped into the ulcerated eye three or four times a day. If matters do not speedily improve, then, in my experience, by far the best plan is to apply the cautery to the affected parts without any further delay.

Welbeck-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF EXTRADURAL HÆMORRHAGE.

By J. F. L. WHITTINGDALE, M.B. CANTAB., M.R.C.S. ENG.,
SENIOR SURGEON TO THE YEATMAN HOSPITAL, SHERBORNE.

TAKEN in conjunction with Dr. F. Wood-Jones's paper in THE LANCET of July 6th last (p. 7) on "The Vascular Lesion in Some Cases of Middle Meningeal Hæmorrhage," the following case may be of interest.

On the evening of August Bank Holiday the patient, aged 25 years, was riding his bicycle home in the dark, when owing to a defective lamp he collided with some obstruction and was pitched on to his head. He was able to get up and to walk some distance, but as he felt "queer" he was taken by a friend in a cart to a farmhouse some distance from the scene of the accident to spend the night, as he was several miles from his home. On the next day he was still suffering from symptoms of concussion, so was brought into the Yeatman Hospital, Sherborne, during the afternoon, the symptoms then being suggestive of concussion only. Next morning, 36 hours after the accident, he became comatose, with stertorous breathing, slow pulse, dilated and insensitive pupils of equal diameter, and clonic spasms in both arms, which were kept in a semiflexed position. There was no bleeding from the ears, nose, or under the conjunctivæ. On shaving the scalp a slight bruise was seen over the left parietal protuberance. After painting with iodine a convex flap was turned down in the left temporal region, including the pericranium and temporal muscle, which revealed a fissure in the skull just posterior to the coronal suture, extending from the vault down to the base. Blood was oozing from the fracture. A circular piece of bone was removed by the trephine on a level with, and two fingerbreadths behind, the external angular process of the frontal bone, exposing anteriorly a clot of blood lying outside the dura mater. The bone was chipped away with forceps to expose the whole of the clot, which was then removed with a blunt spoon. The middle meningeal artery was found to be intact, and the blood, which was venous in colour, came partly from torn veins in the track of the middle meningeal vessels, but chiefly welled up from the base of the skull. The fracture could be traced into the petrous portion of the temporal bone. A piece of gauze was pushed down to the bleeding spot and its end brought out through the corner of the flap. The edges of the wound were united with silkworm gut sutures, and a drainage-tube inserted posteriorly. Cyanide gauze was used to dress the wound.

The subsequent progress of the case was one of slow return to consciousness, which was not completely restored for several days. Great trouble was experienced in preventing the patient from tearing off his dressings in his delirium. At times the respiration and pulse became very slow, and on one occasion the former stopped completely, and was only restored by artificial respiration and the administration of oxygen. Eventually the patient made a good recovery with the exception of paralysis of the muscles supplied by the left facial nerve, the auditory not being involved

The chief interest in the case lies in the slow onset of compression symptoms, which is explained by the fact that the hæmorrhage was not arterial but venous in origin. Probably one of the venous sinuses at the base was torn, accounting for the chief part of the clot, the blood being at a low pressure. In his paper already alluded to Dr. Wood-Jones draws attention to the fact that the hæmorrhage often comes from the torn veins, the artery being frequently uninjured. Out of 31 cases mentioned by Macewen, 4 were due to venous hæmorrhage, and more recent writers mention the veins as being the source of the bleeding in a few instances.

The absence of any localising symptoms made me choose the side on which the slight bruise of the scalp was found for the site of exploration, with such a fortunate result for the patient.

Sherborne.

PERFORATION OF THE SIGMOID COLON BY A MASS OF INGESTED COTTON THREAD.

By S. P. CROOM, M.B., B.S. MELB.,
HOUSE SURGEON, LEEDS GENERAL INFIRMARY;
AND
M. J. STEWART, M.B. GLASG., M.R.C.P. LOND.,
CLINICAL PATHOLOGIST, LEEDS GENERAL INFIRMARY.

THE following case is one in which perforation of the sigmoid colon took place as a result of the accumulation therein of a large mass of ingested cotton thread. The whole duration of the patient's illness did not exceed a fortnight, and it was only during the last three days of this period that really serious symptoms made their appearance. Although laparotomy was performed, some 30 hours before death, the true state of affairs was only discovered at the post-mortem examination.

The patient, a female, aged 26 years, and a weaver by trade, was admitted to the Leeds General Infirmary, under the care of Mr. Lawford Knaggs, on June 27th, 1912. She had been ailing for about a fortnight with rather vague abdominal pains, most marked in the hypogastrium. She continued at work, however, until two days before admission, when the pain increased greatly in severity and was associated with vomiting. She was seen at this time by Mr. N. McLeod, of Drighlington, who diagnosed an acute abdominal condition and ordered her immediate removal to the infirmary.

On admission the patient looked acutely ill, with a temperature of 96° F., a pulse-rate of 120, and a respiratory rate of 48. The abdomen was very much distended and did not move with respiration. There was marked rigidity on palpation, and a dull percussion note was present in the flanks. The liver dulness was not encroached upon. Pelvic examination, both rectal and vaginal, revealed nothing abnormal, and the thoracic organs appeared healthy. Mr. Harold Collinson decided on immediate operation, and as the condition of the patient was such as to preclude the giving of a general anæsthetic, the abdomen was opened in the middle line under local anæsthesia. The peritoneal sac was filled with turbid fluid, a large quantity of which welled out during the course of the operation. As the patient was extremely ill no attempt was made to discover the source of the peritonitis, so a drainage-tube was inserted and the abdomen was closed. The administration of continuous rectal saline was at once commenced, with hypodermic injections of strychnia. Next morning the temperature had risen to 102°, the pulse was 132, and the respirations were 60. Polyvalent antistreptococcic serum was now started, and three doses, each of 10 c.c., were given at six-hourly intervals, while subcutaneous saline infusion was also instituted. The patient's condition did not improve, and she died on the morning of the second day after operation. At the post-mortem examination the following notes were taken:—

Peritoneum.—There is an acute general d peritonitis with abundant sero-purulent and fibrino-purulent exudation, and notably a large amount of fluid effusion between the right lobe of the liver and the diaphragm.

Colon.—There are several perforations in the sigmoid colon. The largest of these measures three-quarters of an inch in diameter. It has very sloughy margins, and has obviously been formed by sloughing of the floor of an ulcer. There are two similar perforations on the opposite wall of the gut, one measuring half an inch in diameter, the

other considerably smaller. All three apertures are blocked by a mass of foreign material (to be described presently), which at this point completely fills the lumen of the gut. In the case of the two larger perforations the mass protrudes considerably, but there is none of the material quite free within the peritoneal sac. On laying open the gut one finds a large ulcerated area lying between the two larger perforations. The floor is thin and distinctly sloughy, but apparently there is as yet no gross solution of continuity. The remainder of the colon, ascending, transverse, and descending, contains a large amount of the same foreign material, but nowhere else has it led to occlusion of the gut or to any breach of surface of the mucosa.

Stomach, duodenum, small intestine, and rectum.—These appear healthy, and none of these portions of the alimentary tract contain any of the foreign material which is present in such large amount in the colon.

Appendix.—The appendix is normal.

Liver.—The liver is extremely soft and fatty. Part of it is honeycombed with small gas cavities, and microscopical examination of smears taken therefrom shows the presence of numerous organisms having the morphological and staining characters of bacillus aerogenes capsulatus.

Kidneys.—The kidneys are extremely pale, soft, and fatty, with marked engorgement of the pyramids.

Spleen.—Is enlarged and soft, and is the seat of a recent wedge-shaped infarction. There are two accessory spleens.

Uterus.—Contains a small endometrial polypus.

Heart.—The heart is extremely pale and soft. There is recent vegetative endocarditis of the mitral valve in the usual situation. There are many punctiform hæmorrhages into the visceral pericardium, especially at the base of the left ventricle.

Lungs.—The lungs are congested and œdematous. There are a few old pleural adhesions on both sides of the chest.

Bronchial glands.—The seat of old calcareous tubercle, clearly beolete.

The *foreign material* in the colon, after being washed free from fæces and unravelled, is found to consist of long hanks of cotton thread, which in the sigmoid have become matted together into a mass the size of a hen's egg, while in the rest of the colon they are looser and more spread out. The total amount when collected forms a mass the size of a cricket-ball. The individual hanks can be separated from one another with great ease, and each is then seen to consist of several dozen threads so intimately twisted together as to form a fairly coherent whole. It is quite obvious that the hanks must have been ingested as such, and not in the form of separate threads.

In order to complete our investigation of this case we paid a visit to the mill in which the patient had been employed. The owner very kindly gave us every facility, and we were able to inspect the actual loom at which she had worked. Here we saw hanks of "bone-sized cotton" precisely similar to that which we had recovered from the sigmoid colon, and conclusive proof was thus afforded that the cotton had been swallowed in the form of hanks and not as single threads. The patient had only been employed in this mill for some three or four months, during which time her health was apparently good. On cross-questioning the mill-owner, however, it was found that he had long suspected her of being somewhat defective mentally, and this opinion was subsequently corroborated by Mr. McLeod.

The case, then, is clearly not one of those in which the patient, over a more or less lengthened period, has been in the habit of swallowing small portions of the material concerned (usually hair, cocoanut fibre, woollen or cotton thread, &c.). Rather, everything points to the conclusion that the cotton was swallowed in large amount over a short period of time, that possibly, indeed, it may all have been ingested at once. Such an act can scarcely be accounted for except by assuming the presence of some mental aberration on the part of the patient, and this theory is borne out by the statement of the mill-owner and the medical attendant. At the same time it seems improbable that the cotton was swallowed with any suicidal intent, but the patient's actual purpose, if indeed she had any, is likely to remain a mystery.

We wish to express our thanks to Mr. Lawford Knaggs and Mr. Collinson for permission to publish this case.

A CASE OF RAPIDLY GROWING FIBROIDS.

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WHILE I am aware of the rapidity of growth of uterine fibroids, I have never yet seen a case in which such rapid growth was manifested as in one that recently came under my notice and which I was called in to see by Dr. Colin Bowen.

The patient was aged 38 years, and had been married three months. Six weeks after her marriage she noticed great abdominal enlargement accompanied by tenderness. The case had been carefully watched by Dr. Bowen for about six weeks, and he came to the conclusion that it was one of rapidly growing uterine fibroids, complicating pregnancy. The growth on the right side extended upwards, and its dulness was continuous with the liver dulness; the one on the left side extended upwards to about the level of the umbilicus. As the tumours were undoubtedly growing rapidly and pregnancy being undoubtedly present I advised operation. On August 3rd chloroform was administered by Dr. Bowen, and on opening the abdomen I found that our diagnosis was absolutely correct. The tumour on the right side was adherent to the under surface of the liver and the great omentum, which adhesions had to be very carefully separated. The one on the left side was free from any adhesions and could be easily removed. As I did not want to leave too long a pedicle, the congested condition of the pregnant uterus made the hæmorrhage very troublesome to control. The operation was completed without any serious hitch, and the patient made an uninterrupted recovery. Up to the present the pregnancy has gone on quite normally, and all distressing symptoms have disappeared.

This case is of great interest, as while no tumours could be felt at the time of marriage in the short space of six weeks they had attained so comparatively large a size as to weigh 5 lb.

Barbados.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

Discussion on Sarcomata and Myelomata of the Long Bones.

A MEETING of this section was held on Nov. 12th, Mr. G. H. MAKINS, the President, being in the chair.

Sir ALFRED PEARCE GOULD opened the discussion from the point of view of clinical diagnosis. He said that the only recent addition of first-rate importance to the clinical methods of establishing the nature of a swelling on or about a bone was the information received from a good skiagram. He was, however, limited to dealing with the diagnosis of sarcoma of long bones by the older methods of examination. He would indicate what seemed to him to be the most important clinical features of sarcoma and myeloma of long bones, and mention two or three conditions which he had known give rise to some difficulty of diagnosis. The stage of the disease in which there was no palpable swelling, merely slight pain in the bone of an aching or boring character, generally made worse by use of the arm, presented nothing to ordinary methods of examination by which one could arrive at a diagnosis, and the aid often rendered by X rays at such a time was simply invaluable. The case that was usually presented was that of a swelling of a bone, recently noticed, steadily enlarging and attended with gradually increasing interference with the function of the part. The swelling of a sarcoma was a single swelling; it might project on more than one aspect of the bone, but it was continuous between these prominences, and they could be recognised as two or more bulgings of one and the same tumour. It was always absolutely fixed to the bone, and in the early stages it presented very slight, if any, nodulation of the surface. A periosteal sarcoma exhibited a marked tendency to extend rapidly along and around the diaphysis and to ensheath the bone. Later on it penetrated and replaced the bone, and led to spontaneous fracture, and also invaded the neighbouring muscles. Its surface then might be even or coarsely lobed; in consistence it was firm, especially when it had undergone chondrification or ossification. When such a tumour had developed all these features, and especially when its very rapid growth and the occurrence of secondary growths in glands or lungs had shown its great malignancy, the diagnosis could present no difficulties. These arose when the growth was small or departed in some striking way from the usual course. In a very small periosteal sarcoma the important features to recognise were its absolute fixity to the bone, its well-defined outline—for it stood up on the surface of the bone and did not gradually shelve off like an inflammatory swelling—and the absence of lobulation of the surface. A periosteal lipoma might be very difficult to distinguish

from a sarcoma if there was no accurate history. Although growing from the periosteum, it was not so immoveably fixed to the bone as was the sarcoma, its surface was finely lobulated, and its consistence was less firm than that of sarcoma. Covered over with a thick mass of elastic muscle, however, it was very difficult to recognise with certainty these features, and when the tumour had been only quite recently noticed, although really congenital in origin, the diagnosis might be so difficult as only to be established by an exploratory incision. Another difficulty was that presented by a periosteal sarcoma growing out from the bone as a globular tumour, without showing any tendency to invade the periosteum extensively. Occurring at or near the end of a diaphysis, such a tumour resembled a chondroma or exostosis. Here, again, an accurate history, if obtainable, would be of the utmost value; In its absence one had to depend upon such signs as the more even outline and the pain of the sarcoma, the extreme hardness and more pedunculated attachment of the exostosis and its painlessness. The difficulty was greater where the benign tumour acquired a broad and extensive attachment to the bone, for it then resembled a sarcoma much more closely. The difficulties associated with the diagnosis of central sarcoma and myeloma were more frequent, and were primarily due to the fact that one was unable to feel within the bone and to appreciate some of the essential features of the growth. Speaking generally, the diagnosis rested upon recognising a disease which replaced the cancellous tissue of an epiphysis, then expanded the thin shell of bone, and finally penetrated this and luxuriated in the tissue outside the bone. In its growth it exhibited a marked tendency to assume a more or less globular, or at least ovoid, outline, and did not invade a great length of the bone. This was a striking feature when contrasted with what was seen in periosteal sarcoma. The central sarcoma, as distinguished from the myeloma, showed more tendency to destroy bone; it expanded the bone less, it penetrated it quicker, it luxuriated around it more rapidly—in other words, it was a more active and more malignant growth. Then, too, it occurred at other situations than the epiphyses, and would rapidly cause spontaneous fracture of the shaft of a bone. Myeloma was less rapid in its growth, was long shut up within the expanded bone, or tense periosteum, and it did not penetrate the articular cartilage and invade the neighbouring joint. True expansion of the bone was a sign of the greatest importance, and the more limited the area of bone expanded, and the greater the degree of expansion, the more characteristic this sign, and the more likely was the tumour to be a myeloma rather than a sarcoma. The absence of new bone laid down on the surface of the enlarging bone was a striking distinction between a sarcomatous growth and a tuberculous, syphilitic, or inflammatory ostitis. He had already pointed out that in the case of a central sarcoma in the earliest stage only the X ray could demonstrate its presence. But the increasing growth of a sarcoma was attended with other features that enabled one to identify it. In a myeloma particularly was noticeable the globular outline of the tumour and its expansion of the bone into a similar globular form. In no other disease was the globular expansion of an epiphysis carried to such a degree; the swelling showed no tendency to extend along the shaft and to involve more and more of the length of the bone. The cancellous bone was rapidly destroyed, and the outer shell of bone was truly expanded, there was no real thickening of the bone from new deposit on its outer surface; this was a striking contrast to the condition found in tuberculous or coccal infection of an epiphysis. The yielding of the thin shell of bone under the compressing finger, giving the sensation of "egg-shell crackling," was occasionally felt; it could only be detected during one phase of the growth; the buckling in of the tensely stretched periosteum when the outer shell of bone had been destroyed was just as characteristic if the surgeon was fortunate enough to recognise it. Along with this expansion of the bone there was a similar change in the articular cartilage; it became flattened out over the growth, but its integrity was preserved long after that of the bone was lost, owing no doubt to its avascularity and to the extreme slowness of all nutritive changes in cartilage. There was the same absence of irritative change that there is in bone; adhesions did not form in the joint, and smooth movement of one bone over the other was preserved, its range being limited only by the disproportionate size of the articular surfaces. Two features sometimes met with in sarcoma of bone called for special mention—they were pulsation and fluctuation. If pulsation was detected in a tumour of bone it was, he believed, diagnostic of a myeloma or of a central sarcoma. In some cases the pulsation was very obvious, but in others it required great care in the examination to detect it. The pulsation felt when an artery was raised over a tumour beneath it was felt only along the line of the vessel, and often the contour of the artery could be recognised. The pulsation of an aneurysm was usually much more forcible than that in a sarcoma, and when it was arrested by compression of the artery above the aneurysm shrank or could be compressed by the hand, and was felt to become more tense and to fill out again when the compression of the artery was removed. A pulsating sarcoma merely ceased to pulsate when the main artery of the limb was controlled and no change in its size or tension occurred. In most cases the pulsating sarcoma occurred in a situation where an aneurysm could not arise, and the associated expansion of the bone afforded a further ready means of distinction. The extreme softness of some sarcomata might make them give the sensation of true fluctuation, and more often they were so elastic that it was difficult to distinguish them from fluid swellings; they were then liable to be mistaken for an abscess or a cyst. The absence of inflammatory phenomena, the expansion of the bone without any sclerosis or new deposit on the surface, and in some cases the presence of firmer and non-fluctuating portions of the swelling, were the points upon which one relied for diagnosis from abscess. A cyst was more tense than was a very soft sarcoma. Hydatid of a long bone was very rarely met with in this country, he had never seen a case, and mentioned it now only to remind that its accompanying eosinophilia was a valuable addition to our means of distinguishing it from sarcoma.

Sir JOHN BLAND-SUTTON dealt with the condition from the standpoint of pathology. He said that although the difficulty connected with the accurate discrimination of innocent from malignant tumours of bone, on histological grounds, had induced many surgeons to mock at the efforts of the morbid anatomist, histology helped, not only in classification, but also in diagnosis and prognosis of sarcomas of bone. The separation of myelomas from the disreputable and complex genus of sarcomas had been justified by experience, and many useful limbs had been saved in consequence. Since myelomas had been isolated, an endosteal sarcoma expanding a bone in the condition familiarly known as spina ventosa was a rare occurrence. The naked-eye features of myelomas were so characteristic that surgeons sometimes failed to make a thorough examination of endosteal sarcomas resembling them in colour. There were red endosteal tumours which simulated myelomas clinically but differed from them in structure. A central bone tumour occurring in an unusual situation at an unusual age, although it furnished the usual clinical features of a myeloma, should be carefully examined. Such a tumour might be a perithelioma. A study of myelomas and peritheliomas threw light on the somewhat rare condition known as benign cysts of bone. A comparison of the distribution, the age-incidence of myelomas, and their relationship to the osseous tissues, supported the view that some benign cysts in the long bones of children and adolescents represented myelomas which had undergone spontaneous cure. Radiograms did not enable a differentiation to be made between endosteal cysts and endosteal tumours; reliance must be placed in pathology for diagnosis and prognosis, as well as for guidance in treatment.

Sir FREDERIC EVE spoke of the treatment of these growths. (His paper is published in full on p. 1355.)

Mr. E. W. HEY GROVES (Bristol) spoke of certain illustrative cases. One of these was a case of multiple myelomata of many long bones, associated with albumosuria, which tended to confirm the possibility that myelomata might undergo arrest. It was that of a man, aged 39, who for five years repeatedly developed tumours in the bones, resulting in spontaneous fractures. The interesting feature was that he did not die, but since 1907 had remained in much the same condition, and his health was still good. Another case illustrated a practical point in treatment—namely, which needed amputation and which should be resected? The evidence in favour of amputation received little clinical

support. The case was that of a girl, aged 13, with mix-celled periosteal sarcoma, treated by erasion, and now several years afterwards she was alive and well. It was open to question whether it was ever justifiable to advise an extensive amputation for sarcoma of the long bones. On the one hand, in some, no matter how extensive the amputation, it was followed by recurrence; on the other, no matter how local the operation, the result might be successful. He thought that the advisability of a high operation should be challenged seriously.

Mr. R. C. ELMSLIE said that sarcoma of the long bones, or at least the periosteal variety, was a fatal disease, its diagnosis difficult, its treatment drastic and maiming, and the prognosis even then was bad. It was therefore necessary that one should take every step to make the diagnosis as certain as possible. For an innocent condition of a long bone, for example, of the femur to be treated as a sarcoma was a surgical catastrophe. The radical operation at the best appeared only to prolong life, and very seldom, if ever, cured. Therefore, it seemed that this radical treatment should be reserved for cases in which the diagnosis had been rendered quite certain. He emphasised two points in the diagnosis. 1. In connexion with endosteal growths. If myeloids were excluded, it was excessively rare to find a recognisable truly endosteal sarcoma—one in which the skiagram showed an endosteal tumour which expanded the bone and had not burst through at any point. Endosteal swellings of this nature were abscess, cyst, fibrous osteitis, gumma, enchondroma, secondary carcinoma, thyroid tumour, endothelioma, perithelioma, and nævus. An endosteal tumour with a definite and complete bony wall was presumably not a sarcoma; it should be approached as probably either an innocent or secondary tumour, and should never be radically treated as a sarcoma except after exploration and a definite and satisfactory microscopic diagnosis. 2. The value of exploratory incision and microscopic diagnosis by a frozen section at the time of operation. He had had the advantage of personal experience in pathological work in this direction, and had found the result frequently unsatisfactory. The error was that exploration was not into the main tumour. Nearly all the failures to arrive at a true diagnosis were due to insufficiently deep exploration or exploration of the wrong part. A pathologist should be present in the theatre, and it was preferable for the surgeon to allow him a say in the portion of tissue to be removed.

The discussion is to be continued on Tuesday next, Nov. 19th, at 5.30 P.M., when the prognosis and value of radiographic examination is especially to be considered. Mr. George E. Gask will open the debate dealing with Prognosis, and Mr. Archibald Reid will discuss X ray work. A large number of specimens obtained from the museums of the London hospitals were on exhibition, and will remain until after the discussion has finished.

CLINICAL SECTION.

Exhibition of Clinical Cases.

A MEETING of this section was held on Nov. 8th, Sir WILLIAM OSLER, Bart., the President, being in the chair.

Dr. M. A. CASSIDY showed a case of Rheumatoid Arthritis treated by Hœfftcke's splint. The patient, aged 26, was admitted to St. Thomas's Hospital in May, 1909, three years after the onset of rheumatoid arthritis. She had been bedridden and unable to stand for more than a year; both legs were acutely flexed on the thighs; the left knee-joint was fixed and the right allowed only a few degrees of movement. The left shoulder-joint was firmly ankylosed, and the hands presented the appearances characteristic of advanced rheumatoid arthritis. Radiant heat, massage, passive movements and extensions produced very little improvement, though persevered with for four months. On Sept. 21st, 1909, both knees were moved under anæsthesia and put up in plaster. On Sept. 30th the splint was fitted. On Dec. 3rd she was able to walk with the help of sticks, and on Jan. 1st, 1910, she could walk without assistance. When shown she could run, and her walking gait would not attract attention.

Mr. WILFRED TROTTER showed a case of Advanced Carcinoma of the Epiglottis, with Involvement of Glands, treated by operation without laryngectomy; operation in November, 1910; no recurrence. The patient, a man aged 49, was admitted to University College Hospital on Nov. 3rd, 1910. Difficulty in breathing and swallowing had been present for nine months. There was well-marked stridor. The epiglottis was greatly enlarged by an obviously malignant growth. The upper opening of the larynx was completely obscured by the tumour, which also caused considerable obstruction of the pharynx. The growth was more extensive on the right side than on the left. In the right anterior triangle a glandular mass 1½ to 2 in. in diameter was present. It was very hard and fairly well defined, but was obviously fixed to the carotid sheath. An operation on the glands was done on Nov. 5th, 1910. The right side of the neck was dissected. The internal jugular vein and sterno-mastoid muscle were removed with contents of triangles. One gland was adherent to the vein. During the operation laryngeal obstruction supervened and a tracheotomy was done. The primary growth was operated upon on Nov. 21st, 1910. Exposure of tumour by longitudinal "transthyroid" pharyngotomy. Local excision, including epiglottis, part of the tongue, and the anterior and lateral walls of larynx as far down as the vocal cords. The tongue and remains of larynx were drawn together by strong mattress sutures, the gap left by the removal of the tumour being completely closed. The longitudinal wound in the pharynx was then closed. Healing was fairly rapid, and there was very little leakage from the pharynx. In March, 1912, a few glands were removed from the left side of the neck. No evidence of disease was found in them. The patient had thus been free of recurrence for two years. The case was shown as an instance of the curability of advanced carcinoma of the upper opening of the larynx, and to show that cure can be effected without laryngectomy.

Dr. W. ESSEX WYNTER showed a case of Acholuric Jaundice. The patient was a female aged 22. Her mother had had no other children. The girl had been jaundiced from birth, the intensity varying, but being always more decided at the menstrual periods. During exacerbations the linen became stained and the urine very dark brown. Sometimes there was itching of the skin, and she often complained of dragging pain in the left hypochondrium, but had no vomiting. The motions were fully coloured and the urine contained urobilinogen but no bilirubin. The spleen was much enlarged and hard. Wassermann's reaction was negative. Bilirubin was present in blood serum. Blood count: Red cells, 2,710,000; white cells, 13,000; hæmoglobin, 52 per cent.; hæmoglobin index, 0·86; nucleated red cells, 78 per cubic millimetre. Differential white cell count: Lymphocytes, 35·4 per cent.; hyaline and transitional, 3·6 per cent.; polymorphonuclears, 59·2 per cent.; eosinophiles, 1·8 per cent.; mast cells, 0. The fragility of red cells was represented by laking in saline solution, 0·55 per cent. as against 0·45 per cent. control.

Mr. LAWRIE H. MCGAVIN showed: 1. A case of Resection of Cæcum, Appendix, Ileocæcal Valve, and 10 in. of Ileum for Chronic Appendicitis. The patient was a woman aged 52 years. Four years ago she was admitted for pain in the region of the appendix, with occasional vomiting of five weeks' duration. There was no definite history of recurrent attacks. She looked sallow and ill; temperature 99·5° F. In the right iliac fossa a firm, prominent mass was felt, lobulated on the surface and dull to percussion. The mass was increasing in size, and there was a leucocytosis of 10,000. On opening the abdomen the lower portion of the ileum, with the cæcum and appendix, were found to be involved in a dense mass of fibro-plastic material surrounded by many adhesions. The whole mass was isolated and resected, and a lateral anastomosis performed by direct suture. She subsequently developed a fæcal fistula, but this ultimately closed, and since she had been in good health. 2. A case of Resection of Cæcum, Ileocæcal Valve, Appendix, and 10 in. of Ileum for Obstruction following an Entero-anastomosis; subsequent Ventral Hernia cured by Filigree Implantation. The patient was a woman aged 49. She was admitted in 1908 for the cure of an umbilical hernia. Eighteen months previously she had been treated for a femoral hernia which was recurrent and strangulated, an enterectomy being performed. While waiting for operation she developed signs of obstruction. At the operation a mass of bowel was found adherent to the middle line above the pubes, the bladder, and the iliac fossa. On separation it was found to consist of the cæcum, appendix, and 9 or 10 inches of ileum and some omentum. At the point of attachment of the ileum to the abdominal wall there was a perforation communicating with a fæcal abscess; the lumen of the gut being here reduced to the diameter of a lead pencil, the stenosis having occurred

at the site of the old anastomosis. The whole mass was excised and a lateral anastomosis was performed. The abscess cavity being drained, a ventral hernia subsequently appeared and became rapidly larger. Eight months later this was cured by the implantation of a 6-inch filigree, since when the patient had been in good health. 3. A case of Resection of Cæcum, Ileocæcal Valve, Appendix, and 5 in. of Ileum for Sarcoma; anastomosis by Murphy's button; button retained for four years. The patient was a man aged 24. In 1908 he was taken suddenly ill with pain in the region of the appendix, set up by lifting a heavy girder. This lasted three weeks, when he commenced to vomit, and was admitted to the Seamen's Hospital. His bowels acted normally and he had no pyrexia. He stated that he had had a similar attack six months previously. On admission he looked very ill, but his pulse, like his temperature, was normal. In the right iliac fossa was a mass large enough to produce an obvious bulging of the abdominal wall; it was firm, fixed, lobulated, and devoid of tenderness. There was neither hyperæsthesia nor rigidity, and the respiratory movements were good. Nothing was felt per rectum; there were no other lumps in the abdomen, and the hepatic dulness was normal. Under spinal analgesia the abdomen was opened, and the mass was found to involve the organs above mentioned; no glands were felt in the mesentery or portal fissure; the whole mass was therefore resected with the corresponding iliac fascia and mesentery, and a lateral anastomosis performed. Owing to the threatening condition of the patient this was rapidly accomplished by means of a Murphy's button. He recovered well, but had not passed the button, which had remained for over four years in the blind end of the ascending colon without causing the patient the least inconvenience. For this reason he refused to have it removed. Microscopically the mass was a myxosarcoma apparently arising in the cæcum at or about the base of the appendix. There was much inflammatory infiltration about the latter, which was, however, irrespective of the tumour. 4. A case of Gastro-enterostomy for Hæmatemesis followed by Ileus and Fæcal Vomiting; cæcostomy; subsequent ventral hernia; cure by implantation of 6-inch filigree. The patient was a man aged 44. In 1909 he suffered from gastric ulcer, and was admitted to the Seamen's Hospital with severe hæmatemesis, for which gastro-enterostomy was performed. The hæmorrhage ceased, but 48 hours later vomiting, becoming rapidly fæcal, set in. The abdomen was reopened and nothing was found except a general condition of paralytic ileus. The cæcum was therefore opened and the ileum intubated. The vomiting ceased and the patient made a good recovery. Later the cæcum was replaced, but a ventral hernia soon developed at this point, and four months later a 6-inch filigree was implanted under spinal analgesia. He had never had the least discomfort from his gastro-enterostomy, his cæcostomy, or his implantation.

Dr. F. E. BATTEN showed two cases illustrating the value of Celluloid Splints in the Treatment of Acute Poliomyelitis. He stated that the importance of the use of splints in the treatment of the early stages of acute poliomyelitis in order to prevent deformity and hasten recovery was fully recognised, the paralysed muscles being placed in a position of relaxation. It was difficult to obtain one splint suitable for all purposes. It was important to have a splint which is comfortable for the child, out of which it cannot wriggle, which is easily removed, which keeps the leg in a good position, and which can be worn day and night, whether the child is up or in bed. The celluloid splint answered all these requirements, and was especially suitable for this purpose—it was easily made, extremely light, and it fitted the leg accurately, and it could be applied within the first few weeks of the onset of the disease, and was not expensive. It could be worn not only during the earlier but also during the later stages of the disease. There were three processes involved in making these splints: (1) the taking of the cast of the patient's limb; (2) the making of the positive from the cast; and (3) the moulding of the splint on to the positive. It was the first, the taking of the cast of the leg, which was most important, for it was essential to keep the limb in a good position whilst the cast was being made. These splints were first made by Calot, of Berck-sur-Mer, and introduced into this country by Gauvain, who had used them extensively in the treatment of tuberculous disease of bones and joints.

Mr. E. C. HUGHES showed two cases of Congenital Syphilitic Disease of the Knee-joint. Case 1.—A boy, aged 12. In 1908 the left knee was noticed to be swollen. In 1909 fluid was aspirated from the joint for bacteriological examination; no organisms were found. In 1912 the knee was much swollen, and there was considerable hypertrophy of the synovial fringes. Fluid from the joint was injected into a guinea-pig, with no result. Wassermann reaction positive. In spite of the marked swelling of the joint its functions were not much interfered with. Case 2.—A girl, aged 13. Two years ago the right knee was noticed to be swollen. The knee was in a very similar conditlon to that of the preceding case.

Mr. DONALD ARMOUR showed a case of Chronic Circumscribed Inflammation of the Corpora Cavernosa. The patient noticed a "growth" on his penis 12 months ago. This had gradually grown larger, spreading upwards towards the root of the penis. It was painless. On erection the penis became dorsiflexed at the site of the inflammatory plaque. He had gonorrhœa when a boy, but denied syphilis. Urine was normal.

Dr. JAMES GALLOWAY showed (1) a case of Tuberculous Peritonitis. The patient, a boy, aged 10, was sent to hospital with the diagnosis of splenomegaly. The abdominal tumour had been noticed from the beginning of August, but the patient had been ailing for some months before that date. An indurated area could be readily felt occupying the upper portion of the anterior and lateral aspects of the abdomen. Its lowest position was in the central line where its edge could be defined two finger-breadths below the umbilicus. The indurated mass was very superficial, giving the impression of being incorporated with the abdominal wall especially in the umbilical area. The skin at the umbilicus and the immediate neighbourhood appeared to be directly adherent to the underlying indurated mass. There was evidence of a small amount of fluid in the abdominal cavity. The glands in the groin were enlarged. A tuberculin cutaneous reaction gave a very doubtful result. There was a slight degree of fever, his temperature varying between 97·4° and 100° F. There was no evidence of pulmonary tuberculosis. One of the glands was removed from the groin on Oct. 1st and showed characteristic tuberculous structure. The case was brought forward on account of the early and probably extensive tuberculous infiltration of the omentum with adhesions to the anterior abdominal wall and the special involvement of the superficial structures in the neighbourhood of the umbilicus. 2. A case of Sclerema Cutis (Adultorum). The patient had attended the meeting of the section on May 31st, 1912. The thickening and induration of the skin at that time affected the face, neck, shoulders, and trunk to about the level of the loins, and with scattered areas on the extremity. Movements of the arms, neck, and face were very difficult. There was a great improvement in his condition, large areas of the skin having returned to its normal state. The treatment consisted of vigorous massage during May, June, and July, and the early part of August. He had had no special treatment since that time, but had recommenced treatment by massage. The hardening and thickening of the skin was noticeable only on the face and neck, and very slightly on the trunk. The areas still affected were not nearly so firm as when previously exhibited.

Dr. R. HUTCHISON showed a case of Hirschsprung's Disease. The patient, a man, aged 39, had suffered all his life from constipation with intermittent distension of the abdomen. During the past three or four months the constipation had been intensified and there had been much flatulent distension without either pain or vomiting. His general condition had remained fairly good.

SECTION OF OPHTHALMOLOGY.

Exhibition of Cases.—Sarcoma of the Choroid.—Leber's Disease of the Optic Nerves.—Retino-choroiditis Juxta-papillaris.

THE first clinical meeting of this section was held on Nov. 6th, under the presidency of Sir ANDERSON CRITCHETT.

Mr. J. HERBERT FISHER showed a case of Subhyaloid Hæmorrhage, with drawing. He urged the abandonment of the term "subhyaloid hæmorrhage," as the hæmorrhage was intra-retinal; he suggested the words "semilunar retinal hæmorrhages."—The PRESIDENT agreed with the suggestion.

Mr. A. W. ORMOND showed a case of Pemphigus of the

Conjunctiva, followed by essential shrinking. The patient was 24, and his condition as well as his sight were now so bad that he pleaded for something to be done. Mr. Ormond proposed to clear away the conjunctiva as much as possible and substitute mucous membrane from elsewhere.—Mr. J. H. FISHER referred to a case of pemphigus of the conjunctiva which was later under Mr. J. B. Lawford's care, in which a vaccine made from the contents of the patient's own vesicles was administered for some time, but without marked benefit. —Mr. LAWFORD confirmed the fact that there was no definite improvement after the vaccine treatment.—Mr. N. BISHOP HARMAN described a very severe and extensive case, involving larynx, pharynx, mouth, and both eyes, and in which no treatment benefited.

Mr. R. A. GREEVES showed a case of Paralysis of the Third Nerve with Periodic Spasm of Irido-ciliary Muscles. He said he could not make out any relationship between the movements of the two eyes. He thought the right pupil was a little unsteady, but it seemed to have nothing to do with the contractions and dilatations of the other eye.—Mr. H. HERBERT described a somewhat similar case, and suggested an explanation—namely, that a portion of the nucleus of the third nerve was non-existent and the other portion of it was weak, so that it was able to overcome the innervation of the higher centres only after an interval of rest.

Mr. J. HERBERT PARSONS showed a case of Mooren's ulcer, with ulceration of the sclerotic, and Mr. LESLIE J. PATON demonstrated a modification of Herbert's operation for chronic glaucoma, in which his object had been, while retaining the simplicity of Herbert's operation, to procure a more permanent result.—Mr. HERBERT described his own attempts in the same direction, emphasising the importance of not reducing the nutrition of the flap too much. The difficulty arose chiefly in subjects who had a very shallow anterior chamber.

Mr. E. NETTLESHIP read notes of a case in which a sarcoma of the choroid was seen as a small spot of disease, but its true nature not recognised, about 20 years before the diagnosis of tumour was made, and 25 years before removal of the eye. The case showed the importance of watching over long periods, when possible, the behaviour of certain solitary spots or patches of dusky discolouration that were occasionally seen in the choroid during ophthalmoscopic examination, some of them probably being the beginnings of malignant growth, although others were, no doubt, congenital and stationary. Such solitary, non-inflammatory patches might sometimes be the counterparts of the minute sarcomatous growths, of which nine or ten examples had been accidentally discovered after death and published during the last few years.

Mr. NETTLESHIP also read a joint communication by himself and Dr. A. HUGH THOMPSON on an extensive pedigree of Leber's Disease of the Optic Nerves, which illustrated the occurrence of the malady in females, recovery in some cases in both sexes, descent to all the children of one of the affected women, diabetes with blindness of unknown nature in one member, high infantile mortality in the very large family of one affected man, and absence of influence of the optic nerve disease upon prospect of life.—The PRESIDENT paid a tribute to the labours of Mr. Nettleship in the domain of hereditary disease, and referred to the changes of medical opinion on the subject of heredity.—Dr. THOMPSON supplemented the paper in respect to one patient who was a heavy smoker, and suggested that in cases of tardy recovery from tobacco amblyopia inquiry should be made as to any connexion with Leber's disease.

Mr. ORMOND read a paper on a Case of Retino-choroiditis Juxta-papillaris. The patient was a man, aged 20, who found on awaking that he could not see very well with his right eye. He had had a little pain in the eye a week previously. On examination there was found keratitis punctata, and a patch of acute choroiditis touching the upper margin of the optic disc, and spreading upwards. Œdema of the retina spread over and beyond the patch. Vessels which passed over the inflamed area were partly obscured, and the arteries diminished in size; there was also some haze in the vitreous. Von Pirquet's reaction was positive. The inflammation gradually subsided, and the patient now had full visual acuity, but a large sector of his field of vision, stretching from the blind spot to the extreme periphery, was entirely absent, and he had no perception of light in the area affected. The defective area in the field of vision was clearly due to the obliteration of a branch of the central retinal artery by the pressure of the inflammatory swelling. Under the title retino-choroiditis juxta-papillaris Professor Jensen, of Copenhagen, published four similar cases in Graefe's Archives in 1909.

SECTION OF LARYNGOLOGY.

Exhibition of Cases and Specimens.

A MEETING of this section was held on Nov. 1st, Sir STCLAIR THOMSON being in the chair.

The minutes were read and confirmed. Sir STCLAIR THOMSON inducted the new President, Mr. Herbert Tilley.

The PRESIDENT showed a man, aged 21, from whom a large Fibroma had been removed by the nasal route. The cheek and lip were turned up on one side, and the ascending process of the superior maxilla removed. The base of the growth was freed by scissors, and a wire snare also employed. A laryngotomy was not employed in the first instance, but recourse to a tracheotomy was found to be necessary later.—Dr. H. W. FITZGERALD POWELL recommended a preliminary laryngotomy as a routine in these cases.—Mr. W. D. HARMER related the easy removal of a pulsating growth where he employed temporary ligature of the external carotids.—Mr. D. R. PATERSON remarked that these cases, though rare in this country, were more frequent in Austria.—Dr. DUNDAS GRANT recommended the use of a raspatory for the removal in early cases, and considered the antrum as the common site of origin.—The PRESIDENT, in his reply, insisted on the convenience of a preliminary laryngotomy, and advised the more frequent employment of Voltolini's method of electrolysis.

The PRESIDENT also exhibited photographs of a case of Chondro-sarcoma of the Nose.

Mr. J. F. O'MALLEY'S two cases of Bilateral Solid Œdema of the Septum were discussed by Dr. DAN MCKENZIE, who suggested that the condition was associated with ethmoidal disease, with which the PRESIDENT did not agree.

Dr. DAN MCKENZIE showed a case in which Denker's Operation for Maxillary Antrum Suppuration had been performed. The anterior corner walls of the cavity were removed so as to connect the opening in the canine fossa with that made in the inferior meatus of the nose. There was no deformity in this case, though such had been reported in other cases. It was possible to look directly into the antrum.—The PRESIDENT mentioned that the lacrymal duct had been damaged in the performance of Denker's operation, and this had given rise to a great deal of trouble.

Dr. JAMES DONELAN exhibited a new and simplified Tonsillotome which could be readily taken apart.—Dr. DAVIES brought one of Sluder's Tonsillotomes with a lever attachment.

Mr. F. F. MUECKE showed a case of Squamous Epithelioma of the Soft Palate, in which the cervical glands were first removed, and later the local growth after a preliminary laryngotomy.

Mr. MUECKE also showed a case of Adduction Spasm caused by Vocal Overstrain in which the cords were closely approximated at the extremities with a concave edge.—Sir FELIX SEMON confirmed this view of the case.

Mr. A. R. TWEEDIE exhibited specimens from a man in whom both Tonsils and the Cervical Glands on both sides were affected by Epitheliomatous Growth.—Sir STCLAIR THOMSON related an instance in which both tonsils were sarcomatous.—Sir FELIX SEMON suggested contact infection.

Mr. TWEEDIE also showed: 1. A Fibro-chondroma removed from the Naso-pharynx, its attachment being the Eustachian cushion. 2. An Internal Carotid with Perforation which led to death in the case of a child, aged 20 months, the subject of sore throat for ten days.

Sir STCLAIR THOMSON'S two last cases of Killian's operation for Frontal Sinus Suppuration illustrated: (1) the severe pain for which the operation was performed; (2) the satisfactory cosmetic effect; and (3) the complete cure of suppuration. He recommended the immediate closure of the frontal wound or delayed closure according to circumstances. In some instances it was more dangerous to leave open than to close. He laid considerable stress on the use of a frontal and orbital dressing pad.—Mr. PATERSON recommended that the frontal wound should be left open one week.—Dr. P. WATSON-WILLIAMS advised closure after 48 hours, and the use of paraffin one year later to improve any deformity.—

Dr. DAN MCKENZIE inserted sutures at the time of operation, and adjusted these later.—Mr. C. W. M. HOPE advocated the use of massage to loosen scars.—The PRESIDENT insisted on the importance of keeping the frontal wound open, for any invasion of the cancellous tissue led to fatal osteomyelitis.

Dr. JAMES ATKINSON showed a case of probable Mikulicz's Disease with Symmetrical Swelling of the Parotid Glands and Excessive Lacrymation. The cervical glands were enlarged, as was also the liver.—Dr. WILLIAM HILL suggested that part of the glandular enlargement should be removed and examined by the microscope to exclude the possibility of lymphadenoma.

Mr. HUNTER TOD showed: 1. A case of Malignant Disease which originated in the sphenoidal sinus and developed Proptosis as the first symptom. There was no pain, probably due to the removal of the anterior wall of sphenoidal sinus and relief of tension. 2. A case of Unilateral Infiltration of the Aryepiglottic Fold and Ventricular Region with Definite Pulmonary Tuberculosis, which was described by Dr. DUNDAS GRANT as exceptional in that there was considerable unilateral disease only.

Mr. HUNTER TOD also showed a case of Tertiary Syphilis of the Larynx, for which tracheotomy was performed in an emergency and which was very successfully treated with two injections of 0·6 grm. of neo-salvarsan with an interval of six days. The rapid action was remarkable.—Mr. E. B. WAGGETT related that in a similar case under his care the patient, who disappeared after one injection, returned with skin lesions and a healed larynx.—Dr. POWELL contended that salvarsan should be followed by mercurial treatment.—Dr. DONELAN had seen recurrence of trouble after salvarsan treatment.—Mr. PATERSON reported satisfactory results with salvarsan, followed by iodide treatment.

Dr. H. J. DAVIS exhibited a skiagram illustrating a butcher's Wire Skewer, pointed end uppermost, in a right secondary bronchus in a child, aged 8 years, suffering from bronchopneumonia.—Mr. PATERSON had removed pins by passing a fine tube over the point.

Dr. DAVIS also showed a skiagram delineating a Penny impacted in the Œsophagus of a suffragette.—The PRESIDENT had found the old coin-catcher passed by aid of a bronchoscope of much use in such cases.—Dr. IRWIN MOORE advocated the use of forceps by which a firm hold on a coin was readily obtained.

In discussing Dr. WATSON-WILLIAMS'S case of Pansinusitis, the PRESIDENT regarded it as an illustration of the modern tendency to treat examples of this disease by operative treatment of the lower sinus and drainage with irrigation of the upper cells.

MEDICAL SOCIETY OF LONDON.

Discussion on Respiratory Neuroses.

A MEETING of this society was held on Nov. 11th, Sir W. WATSON CHEYNE, Bart., the President, being in the chair.

Dr. SAMUEL WEST opened a discussion on the Respiratory Neuroses. His paper will be found in full on p. 1352.

Sir DAVID FERRIER said: I doubt whether I have any special claim to take part in a discussion on the subject of respiratory neuroses, for though many at least of the affections described by Dr. West are of the nature of neuroses, yet they rarely come under the care of the neurologist, but are usually appropriated by those in whose specialties the neuroses manifest themselves. This is no doubt as it should be. We can all, however, appreciate the lucid description and classification given by Dr. West, and we can all understand the physiological mechanism of such affections as spasm of the glottis, such as we see in laryngismus stridulus, laryngeal crises, and the other conditions in which this affection is apt to occur. There is perhaps, however, still room for further inquiry into the intimate pathology of the neuro-irritability on which these spasmodic affections ultimately depend. I doubt, however, whether whooping-cough can properly be described as a respiratory neurosis, for though the characteristic manifestations of this disease are in the domain of the respiratory functions, yet as it is an infectious disease, and has evidently a definite *materies morbi*, it seems rightly to belong to a different category from that of the true neuroses. I would say much the same of the irregularities of respiration that are sometimes seen in hysteria. These I would consider to be merely local, largely emotional manifestations of an affection which is itself a neurosis, and manifests itself in other abnormalities of the most diverse description. In regard, however, to asthma, I agree with Dr. West that it is a true neurosis, and may occur independently of any obvious source of peripheral irritation, whether in the nose, lungs, or other viscera; and that, as Hughlings Jackson said, it has close affinities to epilepsy, both in its family history and modes of onset. As to the intimate physiological pathology of the asthmatic attack itself, I think that the experiments of Riegel, Edinger, and other pathologists, and especially those of Brodie and Dixon, have shown that all the essential symptoms of the attack can be explained by the constriction of the bronchioles by irritation of the vagus. The condition of the mucous membrane is, I believe, secondary to the vagal irritation. In this condition there is obstruction both of inspiration and expiration, but inspiration is relatively much easier. The difficulty of expiration caused by the contracted bronchioles is much increased by the elastic recoil of the alveoli tending still further to occlude the already constricted bronchioles. Hence the lungs become over-distended. Expiration is not favoured, but rather the reverse, by powerful expiratory efforts. It does not appear to be correct to describe it as a state of expiratory dyspnœa; as a matter of fact, the muscles that are contracted to their full extent are the inspiratory muscles. The expiratory muscles, such as the abdominal, are quite flaccid. Of all the respiratory neuroses described by Dr. West the one that most frequently comes under my observation is the periodic or Cheyne-Stokes respiration, occurring, as it so frequently does, in various forms of cerebral disease. Much has been written on the pathology of this form of respiration, and it is a question whether we have even yet arrived at a completely satisfactory explanation of its mechanism. But without entering into any detailed criticism of the various theories that have been propounded in regard to it, I think it necessary that any explanation which is offered ought to be applicable to all the conditions in which it may manifest itself. Now, though it most commonly occurs in connexion with cerebral and cardiac failure, yet it may occur normally in infants, in some people during sleep, in hibernating animals, and under the influence of drugs; and, more important than all, it may be produced artificially in normal individuals, in whom there is no question of the existence of any cerebral, cardiac, or renal disease. It is the artificial production of Cheyne-Stokes respiration in a perfectly normal individual which, to my mind, confers special importance on the observations of Haldane, Pembrey, and other physiologists, who have investigated this condition within recent years. It has been shown by Haldane that if a healthy man reclining comfortably in an easy chair continues to breathe deeply and frequently for a couple of minutes he passes into a state of apnœa. This continues for about two minutes. When the breathing returns, and is allowed to take its own course undisturbed by voluntary effort, it has all the characters of Cheyne-Stokes respiration, which in a few minutes gradually dies away and gives place to the regular respiratory rhythm. The explanation of this condition seems to be somewhat as follows. The normal excitants of respiration are the fall of oxygen pressure and the correlative increase of carbon dioxide, which is the immediate excitant of the respiratory centre. The respiratory centre is exceedingly sensitive to the slightest increase or diminution of carbon dioxide pressure. Excess of carbon dioxide causes hyperpnœa, while hyper-oxygenation causes apnœa, as in this condition there is no carbon dioxide stimulus of the respiratory centre. Normally the respiratory centre maintains a tolerably constant level of carbon dioxide pressure in the pulmonary alveoli and blood. Its action has been compared by Haldane to that of the governor of an engine. A perfect governor should be not only sensitive but should not permit of great variations in speed with the work done—that is, in technical phrase, it must not "hunt." In certain conditions, however, the governor "hunts," and the respiration becomes periodic or of the Cheyne-Stokes type. It would appear that when the vitality of the respiratory centre is lowered, as in cerebral disease, when there is deficient arterial circulation, or deficient oxygen pressure at the end of the apnœa induced by forced respiration, the respiratory centre becomes more

sensitive to carbon dioxide, and responds more energetically than normally, so that we get a gradually increasing hyperpnœa, which dies away when the oxygen pressure is raised, and the whole of the carbon dioxide is washed out. Then follows a pause, and so on in successive cycles. It has also been shown by Pembrey that Cheyne-Stokes respiration may be abolished by the inhalation of air containing more than 2 per cent. of carbon dioxide, as this maintains the carbon dioxide at its normal stimulating value. The administration of pure oxygen has the same effect, and the respiratory centre is no longer stimulated by lack of oxygen to send out the forcible impulses, by which all the carbon dioxide is washed out of the alveoli and blood. Though Cheyne-Stokes respiration in disease is always of the gravest significance, it is astonishing how long the condition may continue before a fatal result ensues. I well remember a case which I was called to see in the country some years ago. The case was that of an old gentleman, a noted sportsman and a well-known man in his county. He had fallen from his horse, and was brought home in an unconscious state. When I saw him some hours after, he was still unconscious, but there were no indications of mechanical injury, and it was difficult to say from the symptoms that there was any local lesion. I observed, however, that his respiration had a suspicious Cheyne-Stokes character, and therefore gave a very grave prognosis. The patient's son, who was a very shrewd and well-informed man, asked me on what special grounds I founded my gloomy prognosis, and on my telling him that it was chiefly the character of the breathing, he said that if that was all I need not be so alarmed, as he knew that his father, in his after-dinner naps, had been in the habit of breathing in this way for the last five and twenty years. I said that if this were so, it might perhaps modify the complexion of affairs, but that I had not much hope. When I returned to London I looked in the *Times* list of deaths every day for nearly a week without seeing any mention of the death of my patient, and began to wonder whether, after all, I had not made a mistake in my prognosis. After a week, however, I saw the announcement in the list, and I hope you will not think me very wicked if I really felt a distinct satisfaction that my prognosis, founded mainly on the Cheyne-Stokes breathing, had proved after all quite correct.

Dr. HECTOR MACKENZIE referred to a group of cases where a troublesome and noisy cough occurred in young people, generally women between the ages of 16 and 20 years. Not infrequently early tuberculosis of the lungs was suspected, but in fact no organic disease was discoverable and there was no expectoration. Such a condition was often cured by the usual methods employed in functional neurosis and the application of faradism. Tachypnœa might be accompanied by pain in the side, and could be remedied by similar treatment, but was more intractable. Asthma might cease after a serious illness such as pneumonia, and this favoured the view that it was a true neurosis.

Dr. LEONARD G. GUTHRIE regarded certain of the respiratory defects as due to the removal of the control of the higher centres exemplified by Cheyne-Stokes breathing. Hypersensitiveness of the sympathetic nervous system was closely related to respiratory embarrassment. He divided such neuroses into somatic and psycho-somatic forms. A good example of the former was laryngismus stridulus, with which tetany was closely related, a condition in which the hypersensitiveness of the nerves was demonstrable by Chvostek's sign. This condition he regarded as undoubtedly due to an intestinal toxæmia. Asthma, on the other hand, was a neurosis of the higher centres. In his experience asthma and epilepsy had rarely occurred in the same subject. He thought, however, that there was a close association between asthma, "dead" fingers, erythema exsudativum, and urticaria. Eczema, too, commonly preceded asthma in early childhood. In young children asthma resembled acute bronchitis, but the symptoms were more severe and disappeared suddenly.

Dr. E. FARQUHAR BUZZARD pointed out that while in hemiplegia the respiratory movements were unaffected on the paralysed side, in double hemiplegia the patients often woke up complaining of respiratory distress. It appeared that in such it was necessary to reinforce respiration by voluntary movements. He had had an opportunity of examining a case of fatal laryngismus stridulus within half an hour after death, and had found in the same case microscopically that the ganglion cells of the brain and cord showed changes indicative of hyperactivity. He had examined microscopically two cases in which Cheyne-Stokes respiration had been present, and found very marked changes in the cells of the medulla. He was not satisfied that it was due to affection of the higher centres or removal of their control over the lower. The trend of scientific investigation was to inculpate the lower centres. In sleep and the slighter degrees of cerebral depression Cheyne-Stokes breathing did not occur, but only when the depression was deep enough to affect the lower centres also.

Dr. F. E. BATTEN said he would confine his remarks to the group named by Dr. West paroxysmal tachypnœa. He thought that in this condition the respiration was always of the inverted type—i.e., the pause came after inspiration. He quoted the case of a boy, aged 8, who was stated to have had a series of fits during a period of 14 days; following these fits he developed rapid respiration of a forced character, which continued except during sleep. After a course of electrical treatment the symptoms disappeared and the boy recovered completely.

Dr. G. C. STEELE-PERKINS referred to a case of paroxysmal tachypnœa which resembled an asthmatic attack and occurred only during coitus. He had found an erosion of the cervix. Half a drachm of potassium bromide given 20 minutes before had been successful in preventing the attacks. The patient had one child, who was epileptic.

Dr. F. J. POYNTON spoke of cases in which enlargement of the thyroid occurred apart from other signs of Graves's disease. Such patients during pregnancy were subject to remarkable attacks of dyspnœa. In salicylate poisoning attacks of dyspnœa also occurred, resembling that of diabetic coma.

Dr. J. VINCENT BELL asked whether the relationship of asthma and insanity might not arise from the acquiring of a cocaine or morphia habit to which asthmatic subjects were liable.

Dr. SAMUEL WEST replied.

LIVERPOOL MEDICAL INSTITUTION.

Considerations of Temperature for Treatment by Tuberculin.—Treatment of Tuberculosis with Tuberculin.

A MEETING of this society was held on Nov. 7th, Mr. ROBERT JONES, the President, being in the chair.

Dr. CLAUDE RUNDLE read a short paper on Considerations of Temperature in Selection of Cases for Treatment by Tuberculin. Charts were shown by lantern screen demonstrating the reaction and control of temperature obtained by the administration of tuberculin. In those cases where temperature had been normal for a week or more the administration was begun with a dose of 0·00005 increased rapidly. The result was satisfactory. In another class of case with an evening rise of temperature to 99° F. or 101° many authorities discouraged the use of tuberculin, but Dr. Rundle thought that these were cases where the most brilliant empirical results were obtained. In cases where there was a superadded infection such as a streptococcal, an autogenous vaccine was useful. Dr. Rundle had in one case been able to isolate such an organism from the blood and administer a vaccine. Tuberculin is of use where the secondary infection has been overcome, as shown by the temperature ceasing to oscillate. In cases where the temperature was from 101° to 102°, with perhaps a remission of a degree or so but never coming to normal, the results of tuberculin were unfavourable. Dr. Rundle had used a preparation of formalin called hæmasepsin, and found that it controlled the temperature after a marked reaction. On stopping the administration the temperature again rose, but would again be controlled. In this case it was found that the same quantity of normal saline produced a similar reaction and controlled the temperature, but after prolonged treatment and the use of 80 injections the case terminated fatally.

Dr. NATHAN RAW read a paper on the Treatment of Tuberculosis with Tuberculin. The paper was based on 640 cases which had been treated. Dr. Raw's impression was that in a great many cases permanent good was done, that where there was acute disease complicated by superadded infection, little could be expected. In all cases other

means of treatment were to be used if possible, such as prolonged open-air treatment, food, cod-liver oil, and general hygiene. It was difficult to decide which cases would improve under the treatment, but the earlier that a case was put under treatment the better. In the choice of the form of the remedy Dr. Raw used Koch's New Tuberculin, human and bovine; and he preferred a mild dosage. A temperature of 101° or more was a contra-indication to the use of tuberculin. So also was hæmoptysis, on account of the local hyperæmia that was produced. In cases of virulent infection tuberculin was of little use. Some of the best results were obtained in gland infections; many of these cases were caused by the use of tuberculous milk, and were therefore of the bovine variety, and in these cases Dr. Raw considered that there was better result from the use of human tuberculin. It was most important not to give tuberculin in any case where there was pent-up pus or caseating material; all such deposits should be evacuated first or otherwise the treatment would cause local reaction and a general diffusion of the disease. As little as possible should be done with the knife beyond incision of the part to liberate the pus. Dr. Raw began treatment with a minimum dose of 1/10,000 mg.; if there was a reaction the next dose was given in a week, and slowly increased to 1/100 mg. The patients usually had a feeling of well-being and the temperature became normal. Dr. Raw thought that with careful dosage undue reaction was due to errors in the technique of administration. In making a diagnosis he used Moro's ointment for children and von Pirquet's test. These were useful, but in acute illness the positive reaction would not prove that the acute illness was due to tuberculosis. An old quiescent deposit would give the same reaction. It was not to be expected that in any apparently cured patient a permanent immunity had been secured.—In the discussion that followed, Dr. T. R. BRADSHAW congratulated Dr. Raw on the moderation with which he had stated his case for tuberculin treatment. Dr. Bradshaw had watched Sir A. E. Wright's early work with great interest, and had seen in his hands very striking results, but his further experience had not been so favourable; in many cases there was only improvement at first. Dr. Bradshaw doubted the value of von Pirquet's test, as a reaction would be obtained in about 60 per cent. of normal subjects; if the reaction is a form of anaphylaxis it may be obtained during the whole of a susceptible individual's life, and would therefore be no guarantee of the presence of tubercular infection.—Sir JAMES BARR had found that many cases did very well with tuberculin treatment, but there was one class where no improvement took place—in the young subject with bad digestion and rapid pulse.—Dr. G. A. CRAGE-CALVERT did not think it was necessary to use bovine tuberculin in the human variety of infection. He used bacillary emulsion and had not seen severe reactions. He used smaller dosage than Dr. Raw, 1/100,000th mg., increased gradually. He was sure that tuberculin was not going to revolutionise the treatment of tubercle, and he deprecated the publication of some statements intended for popular consumption, and quoted one in which it was stated that with tuberculin victory over the disease was never in doubt.—Dr. R. J. M. BUCHANAN pointed out that the reaction test was of small value from a diagnostic point of view, and its value was a diminishing one as life advanced from the age of three years. He had found that the more definite the reaction the more resistance there was to the tubercle bacillus. He thought we should be much helped if some definite standardisation of tuberculin could be arrived at so as to allow real comparison of results obtained by various workers. In mixed infections he thought that tuberculin did little good; if a vaccine, even a stock vaccine, were used alternately or together with tuberculin, it would be an important advance. Dr. Buchanan thought we might safely push the dosage much further than was usually done. In normal subjects 5 per cent. leucocytes exhibited lobing, but in those with low immunity 80 per cent. of leucocytes were lobed. This observation could be made use of to indicate dosage which should be pushed until the lobing came back to normal.—Professor ERNEST E. GLYNN did not think glandular tuberculosis was so often due to bovine infection as did Dr. Raw, and could not believe there was any advantage in treating bovine tuberculosis by human tuberculin, and *vice versâ*. The ideal would be to treat a subject of tuberculosis with tuberculin from his own bacilli.—Dr. A. G. GULLAN, Dr. A. MOSS, Dr. E. FAIRFIELD THOMAS, and Dr. A. STOOKES also spoke.

In reply, Dr. RUNDLE said that he was aware that the Public Health Service of the United States had reported unfavourably on the use of tuberculin, and that in France its use was much decried.

Dr. RAW, in reply, quoted the opinion of von Pirquet himself that a positive reaction might be obtained, but was the result of a very early infection in childhood, this focus being obsolescent. This was borne out by our common experience in the post-mortem room. The reaction was valuable in the negative sense, but even there an acute infection might overpower it. Dr. Raw quoted experiments in cattle which proved that they could be immunised by human but not by bovine tuberculin.

MIDLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

A Journal for the Society.—Election of Officers.—The Presidential Address.

A MEETING of this society was held on Oct. 24th at the Medical Institute, Birmingham, Mr. CHRISTOPHER MARTIN, Vice-president, being in the chair.

The first part of the meeting was devoted to a discussion upon the rules which were submitted by the council for the government of the society. Mr. CHRISTOPHER MARTIN contended that the existing title—viz., "The Midland and Western Counties Obstetrical and Gynæcological Society"—was too long and cumbersome, and proposed that it should be substituted by "The Midland Obstetrical and Gynæcological Society." It was resolved to accept Mr. Martin's proposal, and the new title was embodied in the rules. It was decided to admit all registered medical practitioners as members of the society and the annual subscription was fixed as 5*s*. There will be no entrance fee. The ordinary meetings will be held on the first Tuesday of each month in October, December, January, March, and April, at 4.30 P.M. For the current session the following centres have been selected at which to hold meetings: Birmingham, Bristol, and Leicester. The proceedings at each ordinary meeting will consist in the exhibition of living cases, specimens, and instruments, and the reading and discussion of "short communications" and papers. No paper which has been read previously at another society or published in a journal will be accepted for reading before the society.—Mr. H. BECKWITH WHITEHOUSE submitted a scheme received from the editorial committee of the *Journal of Obstetrics and Gynæcology of the British Empire* for the publication of all the society's proceedings in that journal. This it was resolved to accept.—After some discussion it was agreed to publish a volume of transactions.

The following members, nominated by the council, were unanimously elected to serve on the council for the session 1912-13: Mr. J. Furneaux Jordan, Dr. Frederick Edge, and Dr. Ewen J. Maclean. The following gentlemen were elected members of the society: Dr. J. Attridge Williams, Mr. F. Bolton Carter, Dr. Cecil Marriott, Dr. Guy J. Branson, Dr. C. H. Harcourt, Mr. E. Wilson Hird, Dr. W. H. Pollard, Dr. A. M. Nevin, and Mr. James Eddy.

The PRESIDENT (Dr. E. Malins) then delivered his presidential address upon Some Points in a Short Review of Obstetrics and Gynæcology, 1887-1912. He began by congratulating those who had joined the new society, and observed that it was starting upon a broad democratic basis, free from constraints and apart from the trammels of custom and tradition. At this inaugural meeting it was not easy to find a fitting theme upon which to address the members. However, he was in the position and had the satisfaction of being able to review the past and to make a comparison with the present. In doing so he noted that there was one characteristic which stood out with more insistence than others, and this was the indisputable fact that there was no finality in knowledge. The search for truth was ever a quest of endeavour and patient persistence. During the quarter of a century that he had been engaged in the special department of the General Hospital, Birmingham, there had been several examples of the text to which he had alluded—viz., the gradual evolution of discoveries and the discernment of those who had so aptly made use of them to the practical

benefit of humanity at large. Perhaps in no direction had modern advance been more strongly marked than in the explanation of puerperal infections. Dr. Malins then referred to the life and writings of Semmelweis, Pasteur, Lister, Oliver Wendell Holmes, and other pioneers in the march of progress. That the latter was still being maintained was shown by the returns of the Registrar-General. In the last available report (1910) the deaths referred to "puerperal fever" (161) were 29 below that in 1909, and compared with 478 so recently as 1901. For a large share of this improvement they were indebted to the Midwives Act and the formation of the Central Midwives Board. The influence of that body in the training and supervision of midwives might be regarded as one of the greatest social reforms of their age. Furthermore, the conviction that puerperal infection was a preventable complication had steadily become incorporated in the practice of midwifery. The rules that should guide modern conduct were few and easily remembered—viz., that vaginal examinations were very seldom necessary (the size and shape of the pelvis, the position and movements of the child in the great majority of cases could be determined by external examination); all tears should be repaired at once, all douches avoided; and lastly, the constant use of rubber gloves, kept for this purpose only. He would like to see maternity homes established for women to enter for the purpose of confinement only. Such homes might be under municipal control, or they might be of private enterprise, registered, applicable to all classes of society on graded payments, according to social position and accommodation required. The President then referred to the advances made in the operation of Cæsarean section. He traced the history of the operation and quoted from Dr. Barnes's work on Obstetric Operations (1870), and from Dr. Amand Routh's valuable monograph dealing with all cases of Cæsarean section operated upon by obstetricians and gynæcologists living on June 1st, 1910. There were many subjects, however, still waiting for further elucidation. Thus, the reports of the Registrar-General showed that during the past 14 years (1897–1911) the death-rate from cancer among women was increasingly great. Whilst cancer of the uterus had shown little or no increase during this period, the mortality from mammary cancer had increased by 29 per cent. Again, the death-rate attributed to cancer of the intestines had been practically doubled during the past 14 years. Reference was also made to the modern methods of restoring displacements of the uterus. The ingenious and skilful plans now adopted contrasted strongly with the mechanical methods of former years. He thought that they were upon the threshold of many important discoveries, more particularly in the influence of the thyroid and parathyroid glands on pregnancy, the menopause, and associated conditions. Other aspects of knowledge full of interest were the significance of lutein cells, the possibilities of sera and vaccines in the diseases of women, and the bearing of ante-natal conditions in development and disease. The President concluded his address with a fitting reference to the prominent names that had been associated with the art of obstetrics and gynæcology in Birmingham in the past, and to the present facilities which were afforded for carrying on the work. J. J. Ingleby was the first lecturer in obstetrics at the Royal School of Medicine in the city, and he published several authoritative works on the subject. More recently the late John W. Taylor added to the knowledge of ectopic gestation. The most powerful impetus to the subject of gynæcology in their time, however, was given by Lawson Tait, a man whose reputation spread far beyond the bounds of the locality in which he lived. Tait died in 1889. He was a man of conspicuous ability, bold in action, fearless in expression, a clever surgeon, quick in apprehension, and fertile in resource, one whose versatility and energy stimulated enthusiasm and provoked emulation. At the present day Birmingham was not without adequate means of carrying on in the best manner the special purpose of their profession. There was an admirable and well-administered Hospital for Women, a special department for women at the General Hospital, and a similar one at the Queen's Hospital. Also there was a Maternity Hospital, equipped with all modern requirements, to which was attached an outside lying-in department. Another very important arrangement had been made for the admission of cases of puerperal fever to the Hospital for Women, on the recommendation of the Health Department. The hospital authorities had agreed to set aside a ward for septic cases containing two beds; thus the highest medical and nursing skill available would be obtained under the most favourable conditions.

Dr. C. E. PURSLOW proposed, and Dr. THOMAS WILSON seconded, a vote of thanks to the President for his address.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Perforated Duodenal Ulcer.—Nitrous Oxide and Oxygen as an Anæsthetic for Dental and Surgical Purposes.—Treatment of Lymphosarcoma by Radium.

THE first meeting of the session was held on Nov. 6th, Mr. J. M. COTTERILL, the President, being in the chair.

Mr. J. W. STRUTHERS read a paper on Perforated Duodenal Ulcer, basing his remarks on a series of 27 cases of perforated duodenal ulcer treated by him during the last few years. The patients' ages varied from 14 to 69 years. Two were between 10 and 20, 3 between 20 and 30, 5 between 30 and 40, 9 between 40 and 50, 6 between 50 and 60, and 2 between 60 and 70. There was only one female patient in the series, a woman aged 40.

Histories of patients before perforation.—Notwithstanding the stress recently laid, notably by Moynihan, on the form of dyspepsia usually associated with duodenal ulcer, in some cases duodenal ulcer may cause little or no digestive disturbance. The histories given by the 27 patients in this series fall naturally into three groups: those who gave a history of marked chronic dyspepsia; those who gave a history of occasional slight digestive disturbance; and those who gave a history of apparently perfect health until perforation occurred. In 17 cases there was a history of aggravated chronic dyspepsia existing continuously or with intermissions for months or years, in some cases very severe. They suffered from epigastric pain, tending in most cases, but not in all, to come on from 1½ to 3 hours after food; usually from flatulence, rarely from vomiting. In only one case was there a history of melæna, and in it the blood passed was found to be bright red and therefore not to come from the duodenum. In a few of the cases the pain came on quite soon after the ingestion of food. On the other hand, pain coming on some hours after food, "hunger pain," is not necessarily associated with ulcer in the duodenum. Five patients belonged to the second group—i.e., those who had suffered occasionally from slight dyspepsia. These patients did not at first volunteer a history of dyspepsia, but inquiry showed that they occasionally suffered from flatulence and epigastric discomfort. None had had occasion to seek advice for their symptoms, which therefore were evidently trivial and not characteristic of duodenal ulcer. The third group consisted of four patients apparently in perfect health when perforation occurred, and who had never suffered from dyspepsia. To make sure of this point these patients had recently been carefully questioned again and there was no doubt of its correctness. Out of 27 cases, then, in which ulcer was present and went on to perforation, 10 had either no previous symptoms at all or such slight disturbance that a diagnosis of ulcer could not reasonably have been made. When confronted, therefore, with a case presenting symptoms suggestive of perforation, a previous history of dyspepsia was suggestive, but a negative history was of no value for excluding the possibility of perforation. It was certain that duodenal ulcer might exist for some time at least without any characteristic symptoms.

Signs and symptoms of perforation.—There appeared to be no premonitory sign or symptom which really indicated that perforation was imminent, and no direct cause for its occurrence. In none of the cases could one elicit any history of unusual symptoms during the period when ulceration must have been extending through the peritoneal coat of the duodenum. It seemed that the so-called premonitory symptoms rarely, if ever, differ in character from those experienced at periods remote from the occurrence of perforation. The signs and symptoms following perforation in typical cases are well known and need not be detailed. By the time the patients come under observation in hospital the clinical picture was not always a typical one, for the initial shock had in most cases given place to the period of reaction, to

which Mr. Miles directed special attention in the paper read before this society some years ago. The intensity of the pain had often lessened, spontaneously or under morphia or other sedative. In the cases under review difficulty was caused in 3 by the patients referring the pain chiefly to the right iliac fossa, and by the maximum tenderness and resistance being below the umbilicus on the right side. In such cases, usually regarded as cases of appendicitis, suspicion was aroused by the widespread muscular resistance present early in the illness and by the fact that the temperature and pulse-rate were not markedly, if at all, raised, while a history of aggravated dyspepsia inclined one still more to hesitate between perforation and appendicitis. If, however, the greatest tenderness and resistance are definitely in the right iliac region, it may be impossible to differentiate between the two conditions before operating. In such circumstances it had been the author's custom to open the abdomen through the right rectus muscle just below the umbilicus, explore the appendicular region first, and then, on finding the appendix not at fault, to extend the incision high enough to get at the stomach and duodenum. In four cases such marked improvement had taken place when the patients came under my observation that the presence of any serious lesion was considered doubtful. Two gave a history suggestive of old-standing ulcer, the others did not. All had been seized with violent abdominal pain some hours before admission, and had been sent in for urgent treatment. When seen their pain had almost gone, the abdominal respiratory movements were free, and there was no general tenderness or muscular resistance, only slight tenderness and moderate muscular resistance over the upper half of the right rectus muscle. The fact that the initial pain had been of great severity, with in two cases a history pointing to ulcer, suggested the necessity for operation. On opening the abdomen a perforated ulcer was found in each case, and the explanation of the marked improvement in the patient's symptoms was found to be that the leakage from the perforations had been very slight. In one case the duodenum had become glued to the liver, preventing further leakage; in the others the perforation was extremely small, and the œdematous peritoneum with the lymphy exudate had practically blocked the openings. In cases seen two or more days after perforation, when advanced general peritonitis was present, a previous history suggesting ulcer may be the only clue to the origin of the peritonitis, and in such cases was of great value. Where it was absent, as in the case of a boy of 14 who was first seen on the third day of his illness, the acute operative diagnosis would be only a matter of guess work.

Operative findings and treatment.—Most of the patients had been muscular males with firmly contracted abdominal muscles. In operating on such cases the muscles should be thoroughly relaxed, to obtain ready access to the duodenum, and the anæsthesia must occasionally be as deep as was consistent with safety. In some of the patients morphia (and in a few morphia with scopolamine) had been given before operating, but it has seemed that least trouble resulted where chloroform was used alone, at least during the difficult part of the operation or until towards the end. The previous use of morphia had only proved a complication. Chloroform, when properly used, gets the patient under quickly and quietly, and produces the desired muscular relaxation, and the author had never had occasion to regret its use.

Site and size of perforation.—In all cases the perforation had been found on the anterior aspect of the duodenum, within an inch or an inch and a half of the pylorus, sometimes towards the upper limit of the anterior surface, more often towards the middle of it. The lesions had varied from a minute hole to a perforation as large as the tip of one's thumb. Most have been rounded or ovoid in shape, the longest diameter ranging from 2–6 millimetres. Relatively large perforations had been found within a few hours of the onset of symptoms, while small ones had been found in cases operated on late. Except in one case where perforation followed some hours after a bismuth meal, and in which particles of bismuth were found scattered about the right kidney pouch, solid material had not been found in the peritoneal cavity.

Closure of perforation.—After locating the perforation the parts were brought to the surface and the pyloric end of the stomach was held by an assistant so that the perforation was well exposed. Any excess of fluid obscuring the field was rapidly swabbed away and gauze packs were placed to catch any leakage from the ulcer. The stomach must be firmly but carefully held so as to avoid enlargement of the perforation by tearing while the ulcer is being dealt with. It is my custom to close the perforation with interrupted stitches of thick catgut inserted at right angles to the long axis of the pyloro-duodenal junction. Excision of the ulcer is unnecessary and complicates the closure. The wall of the duodenum is often very friable, so that a thick thread is less liable to tear out. It is undesirable to use silk, which remains as an irritating foreign body. No. 3 or No. 2 catgut, not chromicised, affords the best suture. One or two stitches are passed through the whole thickness of the duodenal wall, so that when tied they will occlude the perforation. Three or four Lembert stitches of the same material are then passed across and on each side of the ulcer to invert it thoroughly and efficiently shut off the perforation. A tag of the gastro-hepatic omentum can readily be stitched over the line of suture if desirable. Effective closure of the perforation is essential, or a dangerous local infection, with formation of a fistula, may follow. It is important to pass the Lembert stitches deeply into the intestinal wall to obtain a good hold, and to enfold the pyloro-duodenal region well beyond the ulcer so as to secure a broad apposition of peritoneal surfaces. I have had the opportunity of examining the closure effected by catgut stitching after death, in one case seven days, in another a few days after operation, and in both it was complete and satisfactory. Where the patient is desperately ill the operation is rapidly finished after closing the perforation, by swabbing out the excess of fluid in the peritoneum, inserting a large tube into the pouch of Douglas, and closing the upper wound. Where the patient's condition justifies it, it seems best to do a posterior gastro-enterostomy before finishing the operation. Closure of the perforation, with or without excision of the ulcer, does not alter the conditions that give rise to the ulcer. The narrowing of the duodenum brought about by enfolding the ulcer must tend to prevent healing or to increase the liability to the formation of a new ulcer, if the old one heals. In addition, the puckering and irritation due to the stitching probably interfere with the proper action of the pylorus, especially at first, and if the stomach contents have to pass along the duodenum the healing of the stitched ulcer will certainly not be facilitated. In a few cases the duodenum and pylorus are so narrowed by the stitches that one is forced to do a gastro-enterostomy immediately to prevent obstruction; such cases show how well the operation is tolerated and how it appears to promote comfort during recovery. Presumably it acts as a drainage opening for the stomach, allowing complete or partial rest for the pylorus and ulcer, and thereby promoting healing and lessening the tendency to vomiting. After doing gastro-enterostomy, the excess of fluid which collects chiefly in the right kidney pouch and the pelvis should be gently swabbed out. Flushing the peritoneum with saline is not only unnecessary, but probably harmful. The fluid which collects in cases of perforated ulcer is a peritoneal exudate, usually aseptic in the earlier stages of a case, and there is no necessity to remove it completely. If a suprapubic drain is inserted the fluid which the peritoneum continues to pour out for about 24 hours will escape freely enough to prevent any dangerous collection of it, and the main operation wound may be completely closed.

After-treatment.—To relieve pain and give rest morphine or heroin may be given when consciousness is regained. The dose should be large enough to insure sleep for some hours. A single good dose needs no repetition, and does not appear to be harmful. Patients may drink water freely from the first. Only when vomiting is persistent need saline solution be given by the rectum or intravenously. Fluid nourishment in gradually increasing quantities may be given after the first 24 hours, and in a few days soft foods, followed presently by easily masticated and digested more solid food. Before allowing full ordinary diet the patient's teeth should be put in proper condition.

Results.—Two of the 27 cases were admitted to hospital moribund and died a few hours later. In neither could operative treatment have been attempted with hope of

success. The remaining 25 patients were operated on promptly. 19 recovered, and the twentieth is well on the way to recovery. In 3 of them no gastro-enterostomy was done, and in 2 of these symptoms indicative of duodenal ulcer appeared after some months of good health following operation. The third in this group, a man aged 61, had no dyspepsia before his illness, and has remained well for more than two and a half years since his operation. Of the remaining 16 cases, in all of which gastro-enterostomy was done, 2 have been lost sight of. The other 14 are believed to be all well, able for their work, and free from digestive trouble. They have either been seen or heard of from their medical men. A few of them have been operated on within the last few months, the remainder at various intervals up to four and a half years. So far none of them have shown signs of relapse. Five of the patients operated on died. One operated on 18 hours after perforation, in whom the peritoneal cavity was filled with bile-stained viscid fluid and whose condition appeared almost desperate before operation, died a few hours later from shock. Another operated on within 24 hours of perforation died ten days later from general peritonitis and broncho-pneumonia. The stitching of the ulcer with silk had given way and fresh leakage had occurred, causing or aggravating the general peritonitis. The 3 remaining fatal cases were all operated on more than 24 hours after perforation, 2 of them more than 48 hours after, and in all general peritonitis, with toxæmia and obstruction, was the cause of death. In none of these 5 cases was gastro-enterostomy done, their condition appeared too bad to justify prolongation of the operation.

Conclusions.—The author emphasised the following points: 1. Duodenal ulcer may be present and go on to perforation without giving rise to characteristic symptoms before perforation. 2. There are no symptoms which may justly be described as premonitory of perforation. 3. When perforation of a duodenal ulcer has occurred, difficulty in diagnosis may arise owing to: (*a*) the pain being referred to the appendicular region; (*b*) early and marked abatement of the severity of symptoms in cases where leakage from the perforation is limited by early adhesion taking place, or by œdematous swelling of the intestinal wall in cases of very minute perforation. 4. Catgut may safely be used to close and enfold the perforated ulcer and is preferable to silk for this purpose. 5. Gastro-enterostomy should be done at the operation for closing a perforated ulcer when the patient's condition will permit of it, for it promotes the immediate recovery and lessens or abolishes the tendency to recurrence of ulceration.

The PRESIDENT said that in his experience it was unusual not to have melæna. Owing to want of observation, however, poorer class patients often missed this sign. The pain referred to the right iliac region was due to the fluids finding their way there from the seat of lesion. It was open to question whether one should not always make a pelvic incision first and use it as a drain and make a second one over the duodenum, otherwise the incision to include both areas might be unduly long. Gastro-jejunostomy added to the time consumed and to the shock entailed, and many surgeons of large experience omitted gastro-jejunostomy and yet had excellent results. He asked if they were in a position to lay down the law that gastro-jejunostomy should be performed in every case of perforated duodenal ulcer which could stand it.—Professor F. M. CAIRD thought it was Mr. Cathcart who had stated that operation for ruptured duodenal ulcer did not give such good results as operation for ruptured gastric ulcer. If that were so, he congratulated Mr. Struthers on his excellent results. He had a strong feeling that the less one interfered with the peritoneum the better, and therefore it was not his practice to wash it out. He put great value on the tube in the pouch of Douglas after washing out the pelvis and swabbing the region of rupture. He thought gastro-jejunostomy should be performed or not according to circumstances.—Mr. CHARLES W. CATHCART said that if there was very little effusion he did not think it necessary to wash out the peritoneum, though he did not think it did any harm. If the effusion was greater in amount, then washing out should be done; otherwise a subphrenic abscess might develop. He thought that the presence or absence of symptoms was due to whether there was or was not inflammation round the ulcer.—Professor ALEXIS THOMSON thought gastro-jejunostomy afforded an enormous value to the operation. Ulcer of the duodenum was multiple, and hence recurrence was frequent. The bleeding ulcer was seldom a perforating one, while those ones associated with chronic indigestion often perforated.—Mr. DAVID WALLACE, Mr. ALEXANDER MILES, Mr. J. W. DOWDEN, and Mr. D. P. D. WILKIE also took part in the discussion.

Mr. WILLIAM GUY and Dr. J. S. ROSS communicated a paper on Nitrous Oxide and Oxygen as an Anæsthetic for Dental and Surgical Purposes. The advantages claimed for this mixture were (1) that it produced an anæsthesia most closely resembling physiological sleep; (2) that it produced the least disturbance of respiration, circulation, and alimentation; and (3) that it involved of itself the least risk to life. Hitherto the disadvantages which attached to the apparatus and the methods of administration had discouraged the ordinary practitioner from employing the mixture. The general and extended use of this valuable anæsthetic depended on the adoption of a simple and inexpensive method which enabled the anæsthetist to control with some degree of accuracy the percentage of oxygen in the mixture, and by allowing rebreathing of the bagful of gas and oxygen for definite periods, gave economy of consumption with the advantages attendant on conservation of CO_2 and a moderate rise in the CO_2 content in the blood. Henderson might or might not be right in stating that a deficiency of CO_2 in the blood was a common cause of syncope and shook under ether and chloroform. It would, however, be admitted that this gas was the stimulant of the respiratory centre, and that the ultimate cessation of respiration attendant on the administration of nitrous oxide through valves was as much acapnic as anoxyæmic. While conservation of carbonic acid was to be desired, oxygen starvation must be avoided. According to Starling and his co-workers, Kaya and Jerusalem, excess of CO_2 acted, so far as the nervous system was concerned, upon the medullary centres only, and mainly upon the respiratory centre, of which it was the natural stimulant. It was also a cardiac stimulant until the percentage of CO_2 in the air respired rose to 12 per cent., when it began to have a depressant action. Lack of oxygen was a much more serious matter, and affected the whole nervous system, especially the spinal and vaso-motor centres, causing a rapid rise in blood pressure and eventually convulsions. The heart, depressed from the first, was rapidly overcome by the rising peripheral resistance. It was thus apparent that with a method providing for a sufficient supply of oxygen under due control the presence of a slight excess of CO_2 in the air respired might be regarded with equanimity. They felt themselves, therefore, on firm ground in adopting the rebreathing principle. In America much important work and research bearing on the administration of gas and oxygen had been carried on, and the mixture had been extensively and successfully employed The importance of rebreathing had been generally recognised by American anæsthetists. The apparatus employed might be described as a lineal descendant of the Guy "gas and ethyl chloride" inhaler. The face-piece, Barth 3-way tap, and bag mount with the side tube for ethyl chloride were the same, but instead of the 1-gallon bag, a 2-gallon bag was used, the distal end of which carried a Y-union. One limb of the Y was connected directly by rubber tubing to the nitrous oxide cylinder. To the other limb was attached a ball syringe, the bulb of which was of 2-ounce capacity. At each end of the bulb was a rubber valve, so that squeezing the bulb propelled its contents into the 2-gallon gas bag. The distal end of the ball syringe was connected to a 1-gallon bag fixed in front of the oxygen cylinder, with which it was connected by a metal tube. A portable fan was also shown. For use the 1-gallon bag was filled with oxygen and the 2-gallon bag moderately distended with nitrous oxide. The facepiece having been adapted to the face, rebreathing was commenced with the 2-gallon bag. At the end of 15–20 seconds the patient required some oxygen, and 4 ounces were supplied to him by two squeezes of the bulb. Further known quantities of oxygen were supplied at such intervals as were indicated by the complexion, care being taken to steer between the two extremes of rosiness and cyanosis. Usually about 4 oz. were required every 15 or 20 seconds until from 6 to 10 oz. had been given in all; this sufficed for 110 to 120 seconds required to induce anæsthesia for a dental case—e.g., extraction of two or three easy teeth. If a more lasting anæsthesia were required 1–3 c.c. of

ethyl chloride were run in at the end of from 25–40 seconds, and the mixture was rebreathed for another 30 seconds, when anæsthesia lasting for from 70–100 seconds resulted. If longer anæsthesia were required after the mask was removed, the Clover inhaler was inserted and a little ether given with the gas and oxygen. This system had been in daily use at the dental hospital for five months, and 800 cases had been so anæsthetised. The results were very much better than with gas or gas and ethyl chloride unmixed with oxygen. There was a striking absence of crowing respiration and of cyanosis or excitement. The addition of measured quantities of oxygen may make the difference between slight risk and perfect safety. The average quantity of gas used is from 2–3 gallons and of oxygen from 6–12 oz.

Dr. Ross said that the method was applicable for minor surgery, but at the end of each two minutes or so the bag must be emptied out to get rid of CO_2 by placing the valve at the intermediate position. When the bag was nearly empty a fresh supply of gases was run in. The amount of oxygen required to keep a good colour rose steadily with the first few bagfuls until a point was finally reached when about 40 ounces of oxygen were being given on each new bagful, and another 10 to 20 ounces were gradually introduced during the following two minutes. This gave a percentage of about 12, and corresponded with the figures arrived at by Hewitt in his experiments with a gasometer. For major surgery nitrous oxide had many valid claims to be ranked above ether. It irritated no mucous membrane or excretory gland; it produced no anæmia and no reduction in the phagocytic power of the blood; it did not damage the central nerve cells; while ether did all of these in varying degree. Above all other questions was that of the prevention of shock, and here Crile's results showed that nitrous oxide was from three to four times more powerful than its rival. Nitrous oxide and oxygen of themselves might give too light an anæsthesia for abdominal work; it could be helped by the preliminary administration of quite a small dose of morphine and atropine and by giving a little ether on the drop method to help the induction stage, after which it was possible to maintain anæsthesia for an almost indefinite time by the gases alone. Proceeding by this plan abdominal section became quite a feasible operation in a large group of cases. A number of cases could be quoted where the patients had recovered from grave conditions with a rapidity and a certainty that could not have been expected had ether been given throughout the operation. The list of 80 surgical cases included gastro-enterostomies, hernias, extensive breast operations, amputations, goitres, &c. His youngest patient was 2½ and the oldest 69 years. The longest period during which the gases were given was 75 minutes on two occasions. Both of these patients awoke in a few minutes perfectly fresh. Dr. Ross then related three typical cases.—Mr. WALLACE, Mr. CATHCART, Mr. HENRY WADE, and Mr. J. S. FRASER took part in the discussion which followed.

Dr. WILLIAM RUSSELL then read the following notes on the Treatment of a case of Lymphosarcoma by Radium. A male, aged 65, had a tumour removed on August 21st, 1909. The tumour was then situated in the axilla, and both pectorals were divided to permit of its removal along with a number of satellite glands. The growth was found to consist of a small-celled lymphosarcoma. About a year and a half after operation there appeared a swelling deeply placed below the left clavicle and a mass of enlarged glands about the size of a small orange in the neck. There were no symptoms beyond some stiffness and tightness in moving the left arm. Radium treatment was begun on June 13th, 1911. A glass tube in an aluminium case (with a silk thread for withdrawal) containing 20 milligrammes of radium bromide was inserted by Professor Alexis Thomson into the mass below the clavicle. Externally a capsule containing 40 milligrammes of the salt was applied daily for four hours to the glands above and for four hours to the swelling below. The capsule was of aluminium, one-third of a millimetre thick, and a screen of silver one-half millimetre thick was interposed to protect the skin from the alpha and soft beta rays. The applications were also always made to different areas, no single area getting more than a single dose. As a result of this precaution the skin never showed more than a moderate reaction. After remaining *in situ* for a week the internal tube was moved a little by its anchor so as to expose a fresh surrounding to its influence. After 13 days the internal tube was removed altogether. The tumour had now ceased to grow. External treatment was continued a few days longer. The total internal dose amounted to 6240 milligramme hours, the external dose to 8680 milligramme hours. A fortnight later considerable improvement was observed; both the enlargements had diminished in size, particularly the lower one. There was, however, a glandular mass somewhat deeply placed above the clavicle, which owing to its depth could not easily be reached by the external application of radium, and accordingly a week later Professor Thomson attempted to insert a tube of radium into it, but found it impossible without exposing the glands by an open operation; he therefore resected the greater part of the clavicle, and finding that he could remove the main mass of glands he did so, and placed a tube of radium in the cavity, leaving it there for one week. The dose was one of 3360 milligramme hours. Three months later, on Oct. 22nd, Professor Thomson could find no trace of the disease. A year had now elapsed, and the patient has remained quite well and been able to engage in his ordinary occupation.—Professor THOMSON said that in his opinion the disease would otherwise have proved fatal in a very short time.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A special clinical meeting of this society was held on Nov. 1st, Dr. G. P. Shuter, the President, being in the chair.—The following cases were examined and discussed. Mr. Aslett Baldwin: 1. Tuberculous Disease of the Knee-joint in a girl aged 12. The right knee-joint was distended with fluid, there was some thickening of the synovial membrane, but a remarkable absence of pain, tenderness, and rigidity. The disease dated back about eight months. There were no signs of congenital syphilis, a Wassermann reaction was negative, but a positive von Pirquet reaction was obtained. 2. A man, aged 54, from whom an Epithelioma of the Inner Side of the Right Cheek was excised six months ago, together with the glands on the same side of the neck. There were no signs of recurrence, but a patch of leucoplakia developed recently on the inside of the opposite cheek and was removed as a precautionary measure. 3. Rodent Ulcer on Dorsum of Hand in a woman aged 68. It was proposed to treat it with zinc ionisation, and subsequently with radium if necessary.—Mr. E. P. Isaacs Coke showed an interesting case of Polycythæmia, in which the erythrocytes varied between 6,000,000 and 12,000,000. The complexion of the man during ten years under observation had always been of a deep red hue, the mucous membranes almost purple, and the conjunctivæ injected. Before a severe hæmorrhage, following the extraction of some teeth, the spleen was two inches below the costal margin, and was only just palpable a month later. The patient suffered from headache, giddiness, and general weakness. Rest seemed to be the only treatment from which he derived benefit.—Mr. T. C. Storey (for Dr. H. J. Davis): 1. Labyrinthine Vertigo in a woman aged 33. The attacks began three years ago, and were getting much more severe, but she never lost consciousness or vomited. Examination showed the right ear to be normal, but on the left side there was absolute deafness. Tests suggested that the left labyrinth was not entirely destroyed. 2. Hernia Cerebelli in a boy, aged 8, following the evacuation of a cerebellar abscess six months ago. The hernia was kept bandaged under pressure and had completely disappeared.—Dr. T. Grainger Stewart remarked that in his experience this was the most successful method in dealing with cerebral herniæ.—Mr. H. Tyrrell Gray: 1. A boy from whom a Naso-pharyngeal Tumour was removed ten months ago. The tumour, which proved to be a myxo-fibroma, grew from the base of the skull and left inner antral wall, the septum being pushed over to the right side. 2. Case for diagnosis. Achondroplasia possibly, but Mr. O. L. Addison suggested it might be some inflammatory condition. An X ray photograph of the hand was shown.—Dr. F. S. Palmer: 1 and 2. Friedreich's Ataxia in a brother and sister, both presenting the characteristic features of the disease. The sister was 18 years of age and the brother two years younger, and in each case the disease seemed to have some relation to an attack of influenza acquired about three years ago. The only other child in the family, a brother, aged 19, was healthy, both parents were alive and well, and no history of nervous

disease could be traced in previous generations nor among the collateral branches. 3. Rheumatoid Arthritis. On a previous occasion when this patient was shown at one of the society's meetings there had been some discussion as to the nature of a swelling in the region of the left shoulder-joint. The swelling had since been explored and found to be a large thick-walled bursa under the deltoid.—Mr. J. G. Pardoe: Large Cyst of the Pancreas drained, at the first operation, through an epigastric incision, the stomach and transverse colon being densely adherent to the cyst wall. After slow refilling of the cyst a second operation was performed and the cyst was drained by an extra-peritoneal incision through the loin. The cyst was now filling again, but much more slowly.—Mr. Tyrrell Gray, Dr. Shuter, and Dr. A. Ogier Ward made suggestions in the event of another operation being necessary.—Dr. H. Pritchard: Aneurysm of the first part of the Aorta coming through the sternum in the region of the third right costal cartilage. The man had been in the army, and had served through the South African war. Dr. Pritchard drew attention to the signs of pressure on the superior vena cava, not a common phenomenon, but well seen in this instance. The patient gave a positive Wassermann reaction, and had much improved under treatment with iodides and rest.—Dr. A. E. Saunders and Dr. A. C. D. Firth presented a series of eight Cretins and two children affected with Goitre. Dr. Saunders usually gave 3 grains of thyroid extract three times a day, during the growing period, in well-marked cases. In one of his patients, however, a girl aged 4, ½-grain doses three times daily produced tachycardia. The boy, aged 9½, had grown 4½ inches since commencing treatment eight months ago. The young woman, aged 17, he had brought before the society 13 years ago. The brother and sister affected with goitre, aged 12 and 11, were the children of a father who suffered from a large goitre from the age of 14 to the age of 20, when it disappeared, and they did not show signs of cretinism. These cases were allied to the cases of goitre with cretinism which occurred in the Swiss valleys and Peak district, whilst in cases of sporadic cretinism the occurrence of goitre was certainly the exception. Dr. Firth, when showing his four cretins, desired to draw attention to the fact that frequently at the commencement of thyroid treatment the patient became bald, and afterwards grew a stronger and thicker crop of hair; also that occasionally an overdose of thyroid might result in the production of glycosuria. The girl, aged 14 years, mentally rather backward, developed slight glycosuria on taking 7 grains daily. She had been under treatment since the age of 6 months, and now took 5 grains daily. During the last 12 months the right lobe and isthmus of the thyroid had shown signs of swelling. The girl, aged 2½, commenced treatment at the age of 8 months, and was taking 3 grains daily with excellent results.—Dr. Grainger Stewart: Pituitary Tumour in a man. Progressive failure of vision during the last 17 years, commencing in the temporal fields, had reduced the patient to such a condition that he only retained a reduced nasal field in the left eye. He became pale, waxy-looking, and adipose. Loss of hair was a marked feature, and he showed regression towards the female type. Testicular atrophy developed years ago, and along with these changes an increase in the size of the hands and the malar region of the face. There was an increased sugar tolerance, and an X ray examination revea'ed enlargement of the sella turcica. Some signs of acromegaly were present, but in the main the symptoms pointed to a loss of function of the posterior lobe, or hypopituitarism.—Mr. Bishop Harman referred to two cases he brought before the society last year. They had been under treatment for two years and had remained quite stationary. In one case thyroid extract, 15 grains per diem, was administered for a month, then a rest for a fortnight; the patient said she appreciated an improvement in her condition each time she resumed the extract. In the other case a man who lived in the country attended the local slaughter-house and extracted the pituitary body of sheep and oxen for immediate consumption. In neither case had any acromegalic symptoms appeared.—Dr. J. M. Bernstein exhibited two cases of glossitis due to syphilis, and wished to point out the frequency of a negative Wassermann reaction associated with chronic tertiary lesions in acquired or congenital cases. 1. A woman suffering from congenital syphilis. The tongue showed chronic thickening with fissures, and obstinate dyspepsia was a secondary result of the painful condition of that organ. In spite of the presence of Hutchinson's teeth and a family history of syphilis the Wassermann reaction was negative, but the latter will not prevent immediate treatment with "606." 2. A woman with chronic superficial glossitis of a different type, the tongue being glazed. The Wassermann reaction was positive.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this society was held on Nov. 8th, Dr. E. W. Hope, the President, being in the chair.—Dr. Harold Scurfield introduced a discussion on the need for infant management being given a more important place in the medical curriculum. He said that, practically speaking, this important subject had hitherto been regarded as outside the domain of medical science. It was not dealt with by the teachers of medicine or surgery, and although supposed to be included in the midwifery course was but little referred to. It was beginning to be realised that such matters as the management of breast-feeding could not be left to the instinct of mothers aided by the advice of more or less ignorant grandmothers, but the fact was that there was no one to teach the mothers, for neither doctors nor midwives were taught. The shirking of breast-feeding by pleasure-seeking mothers might be a new feature of so-called civilisation, but to combat it and the abandonment of breast-feeding for totally inadequate reasons, intimate knowledge of details by medical practitioners was essentially necessary. He considered that if every medical practitioner began his career with a good substratum of knowledge of infant management, and if such knowledge were also imparted to midwives in the course of their training, there would soon be a reduction in the rate of infant mortality.—Mr. F. E. Fremantle deplored the fact that the voice of public health was so little heard in determining the subjects to be included in the medical curriculum. The General Medical Council, in whose hands the matter lay, had among its members only one public health representative, Dr. Arthur Newsholme.—Dr. Reginald Dudfield spoke with approval of the consultation centres to which children were brought and which might be used for teaching purposes.—Dr. John Meredith referred to the baneful practice which prevailed in Somerset of what the midwives called breaking the nipple-strings in infants, often resulting in the formation of an abscess and otherwise injuring the breasts.—Professor A. Bostock Hill said that there was great difficulty in adding another subject to the already overcrowded curriculum. In Warwickshire there were 14 women health visitors who were doing useful work in insisting upon natural feeding, and with very good results.—Mr. F. Vacher considered that the question was now ripe for discussion, in view of the establishment of schools for mothers in various districts. The subject was one which should be dealt with by lecturers on diseases of children.—A resolution was unanimously passed asking the council of the society to consider the best method of securing that the subject of infant management should be given a more important place in the medical curriculum and in the training of midwives.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Oct. 24th, the President, Dr. Stanley Riseley, being in the chair.—Dr. E. F. Finch showed two cases: (1) Traumatic Coxa Vara, and (2) Tuberculous Disease of the Hip. Both patients were boys, aged respectively 8 and 10 years. Both had been injured by a fall three and five months previously. The first patient had never been laid up, and the mother had brought him on account of the limp. The other patient had had pain in the knee, limped, and was ultimately unable to walk. In the first case the limb was shortened, adducted, externally rotated, and slightly flexed, with slight wasting of the thigh muscles. In the other case the limb was adducted, externally rotated, and flexed, with apparent lengthening. All movements were limited and extremely painful. Skiagrams taken by Dr. A. Rupert Hallam showed separation of the head of the femur in the case of coxa vara. Dr. Hallam also showed a series of skiagrams illustrating the different conditions in the region of the hip-joint.—Dr. Arthur J. Hall showed: (1) A case of Intention Tremor in an elderly man of about five years' duration. No family history of tremors or other nervous disease. No nystagmus or any other symptom of multiple sclerosis. The tremor is quite distinct from the simple senile

variety. In certain respects as regards his appearance, the position of the hands, and the occurrence of a finer tremor when not using the hands, the case simulates more a paralysis agitans. The condition does not seem to be getting markedly worse. (2) A case of Amyotrophic Lateral Sclerosis. (3) Case of Intrathoracic Tumour in a little boy suffering from diabetes insipidus. The tumour is probably a mass of tuberculous glands at the root of the right lung.—Mr. G. H. Pooley, after some preliminary remarks, in a paper on the Importance of Ocular Symptoms in General Disease, proceeded to point out a series of cases in which general disease, not previously suspected by the patient, had been detected by some ocular symptom, also a few cases of unusual manifestation of general disease in the eye. Dealing first with the affections of the orbit, the eyelids, the conjunctiva and the cornea, he pointed out that orbital cellulitis might be the first symptom in osteomyelitis, and afterwards referred to the condition of the lids in exophthalmic goitre and ptosis, as manifestations of general disease. A localised redness of the lids led in one of his patients to the discovery of diabetes. After dealing with interstitial keratitis, he referred to two cases of disease of the motility of the eye which proved fatal: one, a squint, was due to pachymeningitis; the other, in which a muscle error which did not remain stationary was for a long time the only warning, was probably due to a cerebral tumour, which caused the death of the patient within nine months. The importance of inequality of the pupil, and the Argyll Robertson pupil in general disease, of opacities in the lens as a symptom of diabetes, of tubercle of the choroid, and the other infectious granulomata were also discussed. The differential prognosis of albuminuric retinitis was then gone into, and instructive cases narrated. A case of lipæmia in diabetes was then referred to, and the significance of embolism of the central artery of the retina or its branches was illustrated by some cases, particularly those in which this had occurred in otherwise apparently perfectly healthy young women, some of whom, however, later developed mitral disease. He lamented the fate of that numerous class of patients who came asking for relief from headaches by the prescribing of spectacles, only to find they were suffering from intracranial tumour or serious renal trouble. Turning to the diseases of the field of vision, a series of charts were shown, depicting the various forms of hemianopia, taken from the charts of patients whose history was briefly narrated, also charts of various scotomata due to toxic and other causes. The paper was illustrated by lantern slides.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 8th, Dr. Joseph Dobson, the President, being in the chair.—Dr. W. H. Maxwell Telling read a paper on the Clinical Aspects of Primary Intrathoracic Malignant Disease, with special reference to its Frequency and Early Diagnosis; also the possible Amenability of Certain Forms to Surgical Treatment. He described the clinical manifestations of the different types of case, showing how the indications depended on the site of the new growth within the thorax, and pointing out the various signs and symptoms which would enable an earlier diagnosis to be made in many instances. One difficulty in diagnosis was due to the fact that most observers considered the condition to be one of unusual rarity, whereas Dr. Telling contended that it was met with not infrequently. He urged that the possibility of neoplasm should be borne in mind in all cases of intrathoracic disease presenting unusual features. Emphasis was laid on the importance of such signs as alteration of the voice, stridor, cyanosis and œdema of the face and upper part of the trunk, the presence of dilated superficial veins, &c. He expressed the view that stridor was frequently a comparatively early sign in mediastinal growth. Attention was drawn to the value of X ray examination as a supplementary means of diagnosis. The question of the possibility of surgical interference with the object of relieving symptoms was also introduced, and Dr. Telling urged the necessity for clinicians to perfect their diagnosis, so as to afford surgery every chance.—Dr. Campbell said that he had found the condition much more commonly in the north than he had in London.—The paper was discussed by Dr. A. G. Barrs, Dr. J. E. Eddison, Dr. W. C. Morton, Mr. H. Littlewood, and Dr. G. W. Watson.—Mr. H. Collinson exhibited a specimen showing the parts removed from an umbilical hernia, with fæcal fistula, necessitating extensive resection of intestine.—Professor R. Lawford Knaggs showed two interesting skull specimens, one with a wound of the superior longitudinal sinus, arising as a result of a dog-bite, and the other showing necrosis following a burn. This was associated with extradural suppuration and septic thrombosis of the superior longitudinal sinus.—Mr. J. F. Dobson presented a series of Bladder Tumours which had been attended with unusual symptoms.—Mr. W. Gough showed a case of Breast Cancer, in which a second removal of neck glands was performed two years ago, and in which there were no signs of recurrence. He also showed a specimen of Extensive Epithelioma of the Vulva involving the Rectum, and in his remarks emphasised the importance of a very wide removal of the growth in such cases.—Mr. Alexander Sharp introduced a girl, aged 12 years, suffering from Laryngeal Tuberculosis, which began by a deposit of small yellow tubercles along the free border of the epiglottis. Three weeks later the whole of the epiglottis and the loose folds of the larynx presented the typical pseudo-œdematous thickening. Tuberculin (B.E.) was given. After the first dose the tubercles began to resolve, and after four injections the epiglottis returned to its normal size. The patient has had seven injections, and now there remains only a small deposit in the left arytenoid region.—Cases were also shown by Dr. J. Allan, Professor J. B. Hellier, Mr. A. Gough, Mr. J. Stewart, Dr. Telling, Dr. R. A. Veale, Mr. L. R. Braithwaite, Dr. A. C. Whitehead, Mr. G. Constable Hayes, Dr. C. Oldfield, Dr. Watson, Professor Knaggs, and Dr. E. W. Bain.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 1st, Dr. A. Freeland Fergus, the President, being in the chair.—Professor A. R. Ferguson (Cairo) delivered a lecture, illustrated by lantern demonstration, on the Lesions of Bilharzial Disease. In Egypt, especially among the fellahin, he said, bilharziosis is an extremely common and very severe disease. It exists also throughout Tripoli, Tunis, and Algeria; in Arabia, Syria, Persia, and the west coast of India; in the Soudan, Abyssinia, Uganda, and the Zambesi district—practically from Suez to the Cape. Its distribution throughout the East is largely determined by the great religious pilgrimages, especially that to Mecca, where the disease is very prevalent. It occurs also in Cyprus, Mauritius, and the West Indies. It has been carried by troops engaged in the South African war to many parts of the empire, and similarly by American troops from the Philippines to many parts of the United States. In the principal ports and along the great rivers of China a similar disease is caused by a closely allied parasite. The great number of remedies for hæmaturia used by the ancient Egyptians, and the existence of vesical calculi in mummies of almost every dynasty suggest its existence in Egypt from the earliest times, and Dr. M. A. Ruffer, of Alexandria, has demonstrated calcified bilharzia ova in the kidney of a mummy of one of the later dynasties. It was most probably by bilharzial disease that the strength of the armies of Alexander the Great and of Napoleon was so greatly reduced during their respective occupations of Egypt. At present the disease is extremely common in Cairo, and I have demonstrated by special methods the presence of ova, recent or calcified, in the tissues of 61 per cent. of 600 male subjects, aged from 5 to 65, which came consecutively for post-mortem examination. Infection takes place from man to man; there is no immediate host. The ova are expelled with the urine or fæces, and if they fall into fresh water they develop in a few minutes into active ciliated embryos (miracidia). These can hardly infect by the gastro-intestinal tract, as they succumb to even three minutes' exposure to 1-2000 hydrochloric acid, nor can they likely penetrate the unbroken skin. Infection doubtless occurs by a mucous surface, possibly the genital, but more probably the nasal, as the habit of ablution before prayers as practised by the poorer Moslems favours this route. After its entrance the miracidium becomes a sporocyst and finds its way to the liver. The sporocysts are male and female, and infection usually takes place with both sexes simultaneously. If so, the young worms developed from the sporocysts pass into the portal vein, unite sexually, and then make their way in couples into its smallest branches, especially to those of the inferior mesenteric vein. There in

the walls of the bladder and colon occurs the chief deposition of ova, from which arise the main symptoms of bilharziosis. If, as occasionally happens, the infection is chiefly by male sporocysts, the resulting damage to the tissues is not great, as the male worms developed therefrom do not pass beyond the larger branches of the portal vein. If the infection is mainly a female one the resulting female worms linger in the liver till a subsequent infection with male sporocysts allows of sexual conjunction, when the conjoined worms are able to migrate as described. But while still in the liver the female worms produce immature ova, characterised by an obliquely placed lateral spine, which, penetrating through the walls of the portal radicles, irritate the Glissonian tissue and produce a peculiar form of hepatic cirrhosis. A large number of photographs were shown, illustrative of the naked-eye and microscopic appearances of bilharzial lesions of the bladder, ureters, rectum, colon and liver, and of the lesions of cancer, which so frequently in Egypt develops in a bladder or rectum which is the seat of bilharzial infection.

Reviews and Notices of Books.

Deformities, Including Diseases of the Bones and Joints. A Text-book of Orthopædic Surgery. By A. H TUBBY, M.S. Lond., F.R.C.S. Eng., Surgeon to, and in charge of the Orthopædic Department, Westminster Hospital. Second edition. Illustrated by 70 plates and over 1000 figures, of which nearly 400 are original, and by notes of 54 cases. In two volumes. Vol. I., pp. 883; Vol. II., pp. 867. London: Macmillan and Co., Limited. 1912. Price 45*s.* net.

THE first edition of this work appeared as long ago as 1896, and during the intervening years the progress of orthopædic surgery has been very great, so that the preparation of the present edition has, no doubt, entailed much work. Indeed, the author has found it necessary to rewrite the book, and has taken the opportunity to rearrange the subjects, so as to group together those conditions which are allied etiologically and pathologically. Thus one section is devoted to deformities of congenital origin, another to those arising from static conditions, and another, again, to paralytic deformities. In different countries different ideas exist as to the extent of the subjects which should be included under the heading of orthopædic surgery, and for the most part in the British Isles it has been customary to exclude tuberculosis of bones and joints, although tuberculosis of the spinal column has been included in treatises on orthopædics. We think that Mr. Tubby has acted wisely in dealing with these matters in his book, and a large portion of the work is occupied in this way.

The first part treats of the congenital deformities, and of these perhaps the most interesting is the congenital dislocation of the hip. This the author deals with very fully; the anatomy of the condition is carefully described and the variations in the form of the acetabulum and the head of the femur are given. As to its etiology, Mr. Tubby holds that only two theories need to be considered—the developmental and the mechanical theory. The difficulty in accepting the developmental theory is to decide exactly in what way an error of development has occurred, but there certainly seems to be some hereditary influence. The mechanical theory has also many difficulties; there are points in its favour, but it does not furnish anything like a full explanation of the conditions. The author leaves the matter undecided. With regard to the treatment, we are told that the manipulative method, or the "bloodless method" as it is most commonly called, is applicable to only about 60 per cent. of the cases, and therefore the open methods have to be considered. Non-congenital and static deformities are considered next, and then follow affections of muscles and tendons. In discussing the etiology of Volkmann's contracture the author expresses the opinion that, though the muscles are chiefly affected, yet there is evidence that in more than half of the cases an ischæmic neuritis is present. In many cases he finds that manipulative measures will succeed in removing the contraction, and the keynote of this treatment is the gradual unfolding of each joint successively from the distal to the proximal. But in most cases operative measures are required, and of all the methods the author thinks that of Drehmann appears to be most promising, though tendon lengthening is also of great value.

The subject of tuberculous disease of the bones and joints occupies a large portion of the second volume. A very full account is given of spinal caries, its complications, and its treatment. Infective diseases of the bones and joints are next considered, and are followed by an account of rickets. As to the cause of rickets, the author holds that the only factor of importance is the deficiency of fat. In discussing the etiology of arthritis deformans the author states that in his opinion intestinal toxæmia is a potent cause, that the main organism concerned is the bacillus coli, and that the best treatment is that which will diminish the number of these bacilli in the bowel. There are several other sections in which are treated various forms of paralytic deformities, and some appendices conclude the work.

The lavish employment of illustrations has materially increased the utility of the book for most readers, for a diagram or a picture will often give a more rapid and a more accurate idea of a condition than any description, however detailed. A very good index is provided, and we are glad to see that it has been placed at the end of each volume, for few things are more trying, when a work is published in two volumes, than to have to consult the second volume before a subject treated of in the first volume can be discovered.

We express really high praise of Mr. Tubby's book, which may be regarded as the standard text-book in English on the subject.

Duodenal Ulcer. By Sir B. G. A. MOYNIHAN, M.S. Lond., F.R.C.S. Eng. Second edition, enlarged, illustrated. London: W. B. Saunders Company. 1912. Pp. 486. Price 21*s.* net.

ONLY a few years have elapsed since ulceration of the duodenum was regarded as a rare disease, and in its diagnosis there were often much doubt and hesitation. At the present time most surgeons and many physicians believe that it is a fairly common disease, and for this change of opinion the main credit must be ascribed to Sir Berkeley Moynihan. He holds that the symptoms which have for many years been ascribed to a functional disturbance of the stomach, and have been thought to be due to an excessive secretion of acid in the gastric juice, are really the result of an ulcer of the duodenum. This opinion has been very widely received, and, indeed, it cannot be denied that many facts have been advanced in its support, even by those who have devoted much attention to the subject, and are inclined to think that the supporters of the opinion have made their claim somewhat too wide. All, however, acknowledge that the investigations of the author have done much to clear up many obscure cases of dyspepsia, and that the treatment advocated by him has succeeded in curing many cases which had not been permanently benefited by medicinal treatment.

It is curious that no mention of ulceration of the duodenum occurs before the year 1817, when Mr. Benjamin Travers reported two cases in which an ulcer of the duodenum ruptured. The evidences of a duodenal ulcer are remarkably clear, and they occur in a well-defined order. The main symptoms are the onset of pain at an interval after food, and its relief by the further taking of food.

It is not necessary for the formation of a diagnosis that there should be any physical signs; the history is everything, and the physical examination adds nothing of practical value.

Naturally the larger portion of this book is devoted to the treatment of the duodenal ulcer, and the author expresses clearly his opinion that in all cases of chronic ulcer the treatment should be surgical. In first attacks, or even in second attacks, medical treatment may be tried, but when attacks recur it is evident that the ulcer has become chronic and an operation is demanded. The operation which the author performs in most cases is gastro-enterostomy, with infolding of the ulcer; and it is only in very few cases that excision of the ulcer is sufficient for a cure. All the stages of the operation are well illustrated. The pathology of duodenal ulcer is fully discussed, and the possible complications are described. In an appendix Mr. Harold Collinson has collected details of all the cases, 305 in number, on which Sir Berkeley Moynihan had operated at the time he published this edition, and the particulars are analysed.

The whole work is well worth reading; it is worthy of its author and of British surgery.

Consumption in General Practice. By H. Hyslop Thomson, M.D. Glasg., D.P.H., Medical Superintendent, Liverpool Sanatorium. London: Henry Frowde, Oxford University Press. 1912. Pp. 335. Price 12*s.* 6*d.*

Although not so stated in the title page, we are informed in the author's preface that this is a second edition. Owing, however, to the time which has elapsed since the first appearance of the work, and the progress which has been made during that period in the prevention and treatment of tuberculosis, the book has been entirely re-written, and much new matter dealing with improved and modern methods of diagnosis and treatment has been added. Dr. Thomson has attempted, and, on the whole, successfully, to provide a short and concise study of the present day problem of "consumption" as it presents itself in general practice.

The book is divided into three sections, headed respectively Diagnosis, Prognosis, and Treatment. The greater part is well written; and the descriptions are accurate, but in some instances the directions as to methods employed in diagnosis and treatment are decidedly lacking in detail. This want renders the author's meaning doubtful, and readers unacquainted with what he desires to tell them are likely to find some difficulty in successfully carrying out the injunctions. Thus, in his description of the tuberculin hypodermic test for diagnosis, Dr. Thomson does not sufficiently emphasise the importance of observing a focal as well as a general reaction; he merely mentions the matter. Further—which is more important—he does not point out the fallacious conclusions which may arise from paying too much attention to a rise of temperature. It is now generally accepted by all competent observers that a rise of temperature alone following this tuberculin test cannot be accepted as proof that the condition from which the patient is at the time suffering is of a tuberculous nature, since many individuals in perfect health exhibit a simple febrile reaction after an inoculation has been administered, due to a previous tuberculous infection. Again, while Dr. Thomson gives an interesting account of induced auto-inoculation, he fails to inform his readers in sufficient detail of the "graduated labour" treatment. Success in this form of treatment can be attained only by attention to detail, the importance of "graduation" being particularly emphasised, and Dr. Thomson would have done wisely had he given a fuller description of the various "grades."

We specially commend the section on prognosis. That on the interpretation of physical signs also well repays perusal, and the general conclusions, to which another chapter is devoted, give a good summary of the author's previous remarks. Those engaged in general practice will find these chapters, and indeed the whole book, helpful and suggestive; it is based on a considerable experience of patients suffering from pulmonary tuberculosis, and is in no way merely a summary of the works of other writers.

Minor and Emergency Surgery. By Walter T. Dannreuther, M.D., Surgeon to St. Elizabeth's Hospital and to St. Bartholomew's Clinic, New York City. Illustrated. London and Philadelphia: W. B. Saunders Company. Pp. 226. Price 6*s.* net.

The object of this book is to provide a guide for the "interne" at the time of his appointment to a hospital, as we are told in the preface, and it is also intended to give hints to the "ambulance surgeon" when newly appointed to his work. In fact, the book deals with the greater part of minor surgery, especially that part which is concerned with emergencies. It is well suited for the purpose for which it has been written and should prove of use to all who without much experience have to act on an emergency in a case of accident. There are a few points to which we must take exception. In the statement of the manifestations of compression of the brain we are told that the hæmatoma which forms pulsates; this is extremely rare if the pressure is sufficient to cause unconsciousness. In the account of the treatment of tetanus it is stated that in the use of antitoxin 10 c.c. should be "thrown into the cerebro-spinal axis (usually a subdural injection)"; this is surely a very inadequate method of describing the use of the antitoxin, and in partially experienced hands, such as those for whom this book is intended, it might lead to harm. The author appears to prefer the sitting posture for the patient for the operation of paracentesis abdominis; at all events, he mentions it and he figures it as the "correct position"; we do not think that anyone who has had much experience in tapping for ascites would agree with him on this point.

The book as a whole, however, is a good one.

The Anatomy of the Human Eye as Illustrated by Enlarged Stereoscopic Photographs. By Arthur Thomson, M.A. Oxon., M.B. Edin., F.R.C.S. Eng., Professor of Human Anatomy in the University of Oxford. Oxford: At the Clarendon Press; London: Henry Frowde, Oxford University Press. 1912. Pp. 61. With 67 stereoscopic photographs, in a box, with letterpress and key-plates. Price £2 2*s.* net.

Professor Arthur Thomson has published through the Clarendon Press an elaborate series of stereoscopic photographs of dissections of the human eye. In a descriptive booklet very minute details of various sections and dissections are given, with full references to the photographs which display them. The six chapters, occupying 61 pages, consist of an introduction dealing chiefly with the methods of preparation of the eyes, antero-posterior sections, dissections from the front, the anterior half of the eye seen from behind, the lens, and the posterior half of the eye. In addition each plate is also drawn in outline and lettered, and the drawing is also fully described. Nothing has been left undone which might aid the student in learning the gross anatomy of the eye. The photographs are admirable, and, as seen with the stereoscope, the parts stand out well in relief. Professor Thomson's special researches on the gross anatomy of the filtration angle of the eye are described and illustrated. The work will doubtless prove of value to students, but it is to be hoped that it will not replace actual dissection and observation of mammalian eyes, which we feel sure Professor Thomson would deprecate as much as we do. The amount of time and labour which must have

been expended by Professor Thomson and his assistant, Mr. W. Chesterman, is enormous. It would be ungracious to question whether the utility of the result fully justifies the trouble; we will rather congratulate the workers upon providing students with a completely reliable description of the gross anatomy of the human eye, beautifully illustrated.

La Responsibilité Atténuée. Par le Dr. L. MATHÉ. Paris: Vigot Frères. Pp. xx.–128. Price 2 francs.

THE conception of partial responsibility has spread widely in medical circles, and to a somewhat less extent in the legal world. The present work is a successful attempt to state the case for the idea and to indicate the attitude of the judicial systems of the various countries of the world towards it. In the past the conception of justice which has almost universally prevailed has resulted in attempts, more or less brutal, to make the punishment of a crime proportionate to its flagrancy without reference to the character of the criminal. It is probably more just and more wise to attempt to individualise the punishment and to take into consideration the conditions under which the crime was committed and the personality of the culprit. Between a state of health in which responsibility may be regarded as complete and a state of ill-health in which the patient is quite irresponsible there are doubtless intermediate states in which the individual can neither be saddled with entire responsibility nor relieved of all responsibility. To elucidate this extremely difficult problem is the task Dr. Mathé has set himself in this book, and though much labour has still to be expended upon the problems which he discusses, we think that the author has done much to clarify the issue.

The Principles of Human Nutrition. By WHITMAN H. JORDAN. New York: The Macmillan Company. 1912. Pp. 450. Price 7*s.* 6*d.*

WE are told in the preface of this volume that it was not prepared for students who have specialised in organic and biological chemistry, but rather with the object of presenting the subject in a way "adapted to popular use," more "particularly to instruction of students with moderate scientific acquirements, whether in colleges, secondary schools, short courses, schools of domestic science, or correspondence schools." We agree that the discretion which has chosen the materials collected in this volume and the excellent order in which they are arranged may often save the time and trouble of referring to elaborate works on physiology and physiological chemistry, but we should be surprised to find that certain, at any rate, of the chapters were read with any clear understanding by the popular reader. The opening chapters on the plant as the source of human sustenance and the chemical elements involved in the nutrition of the human body are in commendably simple terms. But when we come to the chapters on the compounds of human nutrition it is evident that none but those with a good grounding of chemistry and physiology will read them with any advantage. We imagine that the popular reader will find sentences like the following somewhat hard reading: "They (i.e., nucleoproteins) are regarded as a combination of nuclein with an albumin, the nucleins being compounds of nucleic acid and albumin, and nucleic acid yielding on cleavage phosphoric acid, certain nitrogenous bases known as purins, and in all cases a carbohydrate." Or again: "There are good theoretical reasons for suggesting that lecithins serve as a stepping-stone to the synthesis of the nucleoproteins." All this is, of course, perfectly sound writing, but we doubt whether this will help a young woman to select "a combination of foods that is nutritively efficient and at the same time is simple and economical," and we heartily agree with the author in another place that "it is useless to expect that the eating habits of the general mass of persons can ever be brought to a dead level established by scientific principles." The author has produced an excellent series of essays on practical dietetics, and the subject matter bears the mark of recent authority. The book will save in many instances the laborious work of reference to the great literature on this subject—a fact which will be more appreciated by the physiological student than in the domestic circle.

The Doctor and His Work, with a Hint of His Destiny and Ideals. By CHARLES J. WHITBY, M.D. Cantab. London: Stephen Swift and Co., Limited. 1912. Pp. 235. Price 3*s.* 6*d.* net.

IN this interesting work the author discusses pleasantly, clearly, and in a remarkably liberal manner, the following subjects: Medical Types, the Relations of the Doctor and the Patient, the Doctor and his Work, the Economic Factor as Affecting the Doctor, Medicine as a Guild—the Coöperative Principle, the Signs of Change in Medical Conditions, the Doctor as a Sociologist, and the Doctor as Priest and Philosopher. The book is especially welcome at the present time, because we live in an age of change and the doctor of the future is here adumbrated. It is no longer supposed that a true conception of things is to be gained from arresting motion and stereotyping the result of the arrest at certain points; rather we move by accelerating motion and observing the rapid succession of momentary results as a continuous panorama. At this time, therefore, the clear insight given by this book into the roots of the problem with which the profession is faced under the new order of things will be of special value to medical men, who have now to make a momentous decision. The clearness with which the problems are treated will serve to give the public at large a juster appreciation of the conditions, the grievances, the ideals, and the viewpoint of the corporate medical profession.

The author looks for the future triumphs of the medical profession largely in the sociologic field. "If I do not misread the signs of the times," he says, "an unprecedented opportunity is now being offered to the medical profession. By seizing it boldly and with a full realisation of its possibilities we may revolutionise, not merely our own corporate attitude towards contemporary life, but also our own position in the general regard. We may become the representatives of a new aspiration, the leaders of a new movement, the justifiers of a new hope. The sphere of creative sociology is the promised land which we are now invited to enter." He reverts to this subject and amplifies it in the chapter on the Doctor as a Sociologist. Here he considers the subject of eugenics, but with a caveat against the extravagant claims of extremists. There are points with which we can hardly agree with the author in his consideration of the problem of crime. It is not exclusively true that "crime is destructive criticism of the existing social order or disorder," as he pleads in support of "the folly and futility of the retaliatory and 'deterrent' method of dealing with crime," but in the main his conclusions are sound.

With regard to the National Insurance Act, the author, one of the representatives of the Bath Division of the British Medical Association, as the result of his earnest consideration of the subject, holds strongly that the acquiescence of the medical profession in the scheme will mean an enslaved profession. He makes a most praiseworthy effort to go to the very roots of the facts and of the principles of action that underlie all sorts of medico-socio-economic problems. There will inevitably be found by each earnest student of particular problems some alleged facts that he will be unable to accept,

some deductions with which he cannot agree. We should ourselves read some of the arguments in the contrary sense to which the author intends, but we are none the less glad to recommend to our readers an able and thoughtful book.

Leitfaden der Elektrodiagnostik und Elektrotherapie. By Dr. TOBY COHN. Fourth edition. Berlin: S. Karger. 1912. Pp. 212. Price 6.60 marks.

IN the fourth edition of this well-known work the author has extended and revised very considerably the previous edition, which was reviewed in this journal at the time of its publication. The additional matter is very largely in the section of therapeutics, though all parts have been more or less supplemented. The same ingenious method of illustrating the motor points is used. A tracing on transparent paper is placed over an illustration of a dissection of the part. The tracing represents the skin with the motor points marked in red, and on lifting this we see the muscles and nerves to which they apply. Among the new methods described we notice a reference to Erfurth's elektromat—a substitute for the Schnee bath, to Rumf's oscillating current for stimulating cardiac muscle, and to the so-called "Jodko current," which is a means of using the current from an induction coil as a substitute for that from a static machine. A full reference is also given to Zanietowski's condenser discharge for diagnosis and treatment. This method of testing has the cardinal advantage that the current used can be accurately measured, which cannot be done satisfactorily with the faradic current. We are certain to hear much more of this method before long, since comparisons can be easily made and the conditions of any test repeated at any future time. A difficulty in this book is to find out the method of treatment of which the author most approves in any particular disease. He tries to tell us of all the methods used; we should prefer to hear which one, or perhaps two, he most prefers himself, with his reasons for his choice.

Der Infantilismus, die Asthenie, und deren Beziehungen zum Nervensystem. Von Professor Dr. PAUL MATHES, Privatdozenten für Geburtshilfe und Gynäkologie an der Universität in Graz. Mit 8 Abbildungen im Text. Berlin: S. Karger. 1912. Pp. 186. Price 6 marks.

IN this monograph the author is concerned with infantilism, more particularly from the standpoint of the gynæcologist. In his practice he meets with a definitely infantile type of adult female, characterised by both a structural infantilism and a functional asthenia. So well known is the type that popular parlance has dubbed such individuals "unausgebacken." Among the physical stigmata of the condition are a long thin neck, bent forwards, an arched back with shoulder blades standing out, prominent clavicles, flat small thorax with small breasts planted closer together than normally, comparatively little tilting of the pelvis, the vulva being visible from the front; in addition, the skin is not infrequently lax and rather wrinkled, with a tendency to pigmentation where the clothes rub on the body; the skin of the hands and feet is cold and moist, sometimes bluish, sometimes mottled—a condition which often extends to the elbows or the knees. When the features are of a childish cast—i.e., when they correspond to those of the average individual of an age some years earlier than that of the patient and yet do not present the youthful freshness of the healthy child—the picture is complete. Accepting the criteria of De Sanctis and Ettore Levi, the author defines infantilism as constituted by the persistence of any physical or mental condition or trait which belongs normally to an age younger than that of the individual concerned. Any such appearance is a "morphological anachronism."

The description given of the varieties of infantilism and their relation to disease or impairment of function of the glands of internal secretion is useful, though not very complete. More attention is given to the asthenia of the infantile type and its relation to certain problems concerned with child-bearing, as well as to its connexion with disturbances in other systems (respiratory, circulatory, or alimentary). There are sections on prognosis and treatment and a chapter on the place of these asthenic infantile individuals in society.

The monograph may be recommended to the gynæcologist as bearing at least as much on his subject as on the wider topic of infantilism in general.

LIBRARY TABLE.

Character and Religion. By the Rev. the Hon. EDWARD LYTTELTON, M.A., B.D., Headmaster of Eton College. London: Robert Scott. 1912. Pp. 212. Price 5*s.* net.—The headmaster of Eton has written a highly interesting book as a contribution to the Library of Historic Theology. The library is designed to supply a series of theological works presenting a general survey of the present position of thought and knowledge in various branches of the wide field which is included in the study of divinity, and there is no doubt that this is an appropriate time for the issue of such a series, as of recent years the study of theology has been approached from many new points, and an enormous acquisition of knowledge, ethnological, sociological, linguistic, and scientific, has now to be taken into account. The thesis of Canon Lyttelton's contribution to the series is that character cannot be trained on moral principles alone, and that all serious-minded moralists are religious, though some of them may not know it. We would go further, and say that many of them spend a good deal of time in attempting to prove their freedom from what they would consider trammels, and in their very exposition show high purposes and sustained ideals which to the religious minded must seem to have a religious origin and support. To bring out the thesis certain forms of religious profession are examined in the book and their inadequacy in respect of the encouragement of humility is noted. Humility, as the author informs us in the preface, has been taken by him as a convenient title for the group of such qualities as self-forgetfulness, lack of self-assertiveness, and humble estimate of self. All the main arguments can be applied to a larger area of ethics than those connoted by humility. We recommend the book to our readers—many medical men may find in it both a reinforcement of convictions previously held and a defence of those convictions when they are challenged. The attempts, with which we are all familiar, to do what is called "reconcile religion to science," and the works written to suggest that what really matters and matters alone is conduct, will find here a rejoinder. It is not a precise refutation of the irreligious view any more than the broadest of "broad-minded" treatises ever establishes its points wholly; but it is a sincere and valuable piece of testimony. Canon Lyttelton's opinion is that the life of the moralist is in itself an unconscious form of piety, and that "every single postulate made by moralists as the motive principle of their character not only is borrowed from Christianity but is meaningless except as an expression of strictly Christian ethics." He makes out an excellent case, though we doubt if he would always have the support of the historian and the psychologist.

The Chemistry of Breadmaking. By JAMES GRANT, M.Sc.Tech., F.I.C., F.C.S. With plates. London: Edward Arnold. 1912. Pp. 224. Price 5*s.* net.—Mr. Grant has

written a very useful book for the beginner at breadmaking, who must realise that the various processes concerned are controlled by chemical and biological principles. Before coming to the technical departments of the subject the reader finds in the introductory chapters a short course of physics and chemistry, with special reference to their bearing upon breadmaking. Ferments, yeasts, moulds, and bacteria are, however, considered later, but the chapter is a good one for the special purpose in view. The standard bread question is ignored, which we regard as an omission of some importance, for it is always instructive to have the views of technical authorities upon this point, especially in view of recent researches which show the importance of traces of certain substances in nutrition. Nor does the author commit himself to an opinion on the question as to whether bleaching by nitrous acid gas damages the nutritive properties of the wheat. But the following sentences, we think, are very significant: "A few seconds' treatment is sufficient for the purpose, and great care is necessary to give just the exact length of time in contact with the gas, since if the flour becomes overbleached it is practically useless ....." "The highest grades of flour are not improved by this treatment, and therefore are rarely bleached."

Ueber Säureretention als Krankheitsursache, zugleich ein Beitrag zum Chemismus des Schlafes. Von Dr. LUDWIG HIRSCHSTEIN, Arzt für Stoffwechselerkrankungen in Hamburg. Mit einer Tafel. Leipzig und Hamburg: Voss. 1911. Pp. 90. Price 3 marks.—In this little monograph Dr. Hirschstein endeavours to demonstrate that certain symptoms of nervous disease, or rather disturbances of nervous function, are attributable to an accumulation of various acids in the body. By careful and elaborate experimentation on himself and other patients Dr. Hirschstein finds that phosphoric acid, sulphuric acid, and certain acids of the protein group are normally excreted during the quiet rest of the evening or the night. If this is prevented by the subject's passing a sleepless night the elimination of these acids is delayed; they are retained to a greater or less extent, and if the process is allowed to continue for any length of time various physical and psychical symptoms, usually classed vaguely as "nervous," are the result. The cases of some patients of the author who presented a syndrome of the neurasthenic type are worked out in a painstaking fashion, and they certainly appear to support the contentions of Dr. Hirchstein, as sketched above. They suggest, further, a line of treatment to pursue in such cases—viz., the administration of potassium bircarbonate in large doses. This the author adopted in his own case (neurasthenia), with excellent effect. The monograph is calculated to stimulate further study along the lines indicated by Dr. Hirschstein.

Old English Towns. By ELSIE M. LANG. Second Series, with 12 illustrations. London: T. Werner Laurie, Limited. Pp. 196. Price 6*s.* net.—Miss Lang, in an interesting little volume, supplies casual notes of the following 16 towns, half of which at least have the right to be termed cities, and all of which possess interesting historic associations as well as beautiful sights—Dover, Norwich, Bristol, Guildford, Liverpool, Exeter, Newcastle, St. Albans, Plymouth, Warwick, Boston, Ely, Chichester, Northampton, Tamworth, and Shrewsbury. St. Albans, Norwich, and Exeter are known all over the world for their beautiful cathedrals; Dover, Warwick, and Tamworth Castles are famous; Northampton has one of the four English churches built on the mode of the Church of the Holy Sepulchre at Jerusalem, the other three being the Temple Church in London and the churches at Cambridge and Maplestead, in Essex. Miss Lang does not, apparently, reckon as a church the shell of yet a fifth which stands within the grounds of Ludlow Castle. Northampton also possesses one of the Eleanor crosses. Chichester, in addition to its interesting cathedral and belfry, has one of the loveliest market crosses in the kingdom; Bristol, Guildford, and Shrewsbury retain many of their most picturesque mediæval features; Boston, the mother of the Massachusetts capital, possesses the famous church tower, the "Boston Stump"; the two great seaport towns of Liverpool and Plymouth have largely lost the evidences of their antiquity, but their present great importance makes of them interesting centres. The book should appeal closely to the motorist; it indicates sufficiently what he should see, while giving him a rough historical outline of each place.

Intoxications-Psychosen: Ein Vademecum für die Aertzliche Praxis. Von FRIEDERICH KANNGIESSER, Dr. med. et phil., Toxikologe an der Universität Neuchatel. Jena: Gustav Fischer. 1912. Pp. 35. Price 75 pfennigs.—This brochure is intended to furnish a brief compendium of the symptomatology, diagnosis, and treatment of such psychoses as are produced by addiction to alcohol, morphia, and cocaine, and also of the more purely nervous symptoms associated with lead, arsenic, and so on. The drugs whose action is described are arranged in alphabetical order so as to facilitate reference. Some of the paragraphs are long and packed with useful information; others are so meagre as practically to be valueless. Thus there are no references to the treatment of arsenical poisoning, of bromism, carbon monoxide poisoning, and several others; sulphonal is not mentioned at all; while the sole suggestion for the sleeplessness of delirium tremens is "three tablets of bromural." With judicious amplification the merits of this little book would be considerably enhanced.

Antiques and Curios in Our Homes. By GRACE M. VALLOIS. With 61 illustrations. London: T. Werner Laurie, Limited. Pp. 323. Price 6*s.* net.—Miss Vallois supplies some interesting notes upon exactly the kind of furniture, curios, and oddments generally, which people nowadays are buying up rapidly and in many cases ignorantly. The information which she gives upon old chairs, tables, and bureaus, china, pottery, glass, and silver is brief and desultory, but very interesting, and is obviously the outcome of considerable personal knowledge. She disarms the criticism that would call the book superficial by stating frankly that she has written to help the amateur "who does not mean to make a regular study of antiques, even in one department, but would like to know something about his own possessions." There must be many homes, not the homes of the collector or *virtuoso*, but just the homes of people who have bought or who have succeeded to a few pretty things, where such a guide as this book will be very valuable. The necessary information is given whereby the dates and the probable attributions can be made, and the articles selected for notice are just the right ones. The medical man in the country, armed with this book, will have a guide when bargain-hunting; conversely, the owners of pretty things, similarly warned, will be able to take care of themselves.

MISCELLANEOUS VOLUMES.

THE prompt issue of the collected proceedings of congresses is an undoubted virtue, and on this account we congratulate the Second National Conference on the Prevention of Destitution, the bound volume of whose *Proceedings* now lies before us. We commented extensively on the aims of the congress in THE LANCET of May 18th. Our expectation then expressed of important contributions has been justified, and several such will be found in this volume.

They are, indeed, so numerous that it would be invidious to attempt any selection. The total number of delegates and members who attended the congress was 710. One feature of the congress is especially to be commended to other congresses as worthy of imitation—viz., the circulation of the papers in proof to the members so that they may be taken as read, subject to the reading by the authors of a brief summary of the salient points, and the whole time of the session thus set free for discussion of the questions raised.——There is generally food for thought in the reports of the various hospitals, and Volume III. (1911) of the *Medical and Surgical Reports* of St. Luke's Hospital, New York (Brooklyn, N.Y. 1912. Pp. 353), is no exception to the rule. Among other interesting papers, Dr. Robert Abbe checks up the results and records his later experience with the string-sawing method of treating œsophageal stricture accidentally initiated by himself and published in the *Medical Record* of Feb. 25th, 1893, which has since been adopted by other surgeons. He concludes that "St. Luke's Hospital may be credited with the demonstration of a successful, safe, and bloodless method of dealing with a bad surgical condition for which no other method is adapted." Dr. C. L. Gibson calls attention to the fact that rupture of the kidney in children is probably commoner than is usually supposed; that the lesion is frequently severe, dividing the kidney into unequal halves; that shock and other symptoms may be slight in comparison with the gravity of the lesion; and that operation should be more freely employed and gives good results. Dr. Walton Martin records a probably unique case of fæcal concretion in the Fallopian tube. Dr. Scott Schley describes a simplified equipment for the operating room. Dr. Henry G. Bugbee reports a case of recurrent papilloma of the bladder satisfactorily treated by the high-frequency current. Dr. Lewis F. Frissell reports a case of rupture of the chordæ tendineæ of interest from the rarity of the condition, its mode of production, and the presence of a presystolic murmur in the absence of mitral stenosis. Dr. T. Halsted Myers describes an operation for securing motion in ankylosis of the elbow without the production of flail joint. In a paper on a New Era in Medicine in New York, Dr. F. C. Wood endeavours to explain the growing distrust in the methods of education as shown in their results in the college graduate. The following sentence should hardly be localised to the American continent—it is unfortunately a characteristic of the age: "We do not yet fully appreciate that money will buy neither loyalty, scholarships, nor genius, but only industry, no matter with how lavish a hand it be distributed."——We have received from the Department of Health of the City of New York several of its interesting and useful publications entitled the "Monograph Series." In No. 3 Dr. Charles F. Bolduan gives the results of his experience in the Health Department in investigating and tracing during seven years the cause of typhoid fever outbreaks in New York City, with the object of showing the methods most useful in studying the occurrence of typhoid fever. In No. 4 Dr. S. Josephine Barker, director of child hygiene, describes the evolution and working of the division of Child Hygiene of the department, which was created by the Board of Health in August, 1908. In No. 6 Dr. Bolduan publishes a guide to some of the hygienic features of New York City, prepared especially for visitors to the recent Fifteenth International Congress on Hygiene and Demography. In No. 7 Dr. Hermann M. Biggs, general medical officer of the department, comments on various plans of hospital construction as typified in different New York hospitals and sanatoria. All these pamphlets are of value to those particularly interested in the subjects with which they deal. They may be obtained on application to the secretary, Department of Health, Centre and Walker-streets, New York City. In the sixth volume, *Collected Studies from the Research Laboratory*, Department of Health, City of New York, 1911, the editor, Dr. William H. Park, has brought together a series of studies of varying merit, under the groupings of Applied Therapy and Preventive Medicine, Bacteriology, Biochemistry, Disinfection, Immunity, Milk, Pathology, Physiology, and Protozoology.

THE HEALTH OF THE CITY WORKER.—Under the auspices of the Institute of Hygiene a three days' conference was held in the Council Chamber of the Guildhall from Oct. 28th to 30th, the subject of discussion being the health of the city worker. The conference was opened by the Lord Mayor, who said that as a medical officer of various public institutions he had never had to complain of the air provided for workers in the business establishments of the City, and spoke of the excellent results which had followed the adoption of a good system of drainage. The discussion over which Sir William Bennett presided on the first day dealt with the health of the business man. Mr. A. B. Olsen took the view that the business man's lunch consisted of too much meat. Lunch should consist of a glass of milk with bread-and-butter and stewed fruit. Nuts, too, were a valuable food for city workers. Dr. Farquhar Buzzard did not regard the average business man as an unhealthy person in spite of his strenuous work and sedentary life. Whisky and other spirits were one of the greatest sources of ill-health. The man who used his brain all day long required a form of recreation which involved the breathing of plenty of fresh air, but which did not involve great loss of nervous energy through the use of his muscles. Dr. John Cahill advocated golf as the best form of recreation for the city man, and Dr. J. S. Goodall laid down the following rules of hygiene: periodic visits to the dentist, the chief meals to be those of the morning and evening, which should last at least an hour each, and should not be interrupted by reading or business discussions. He advocated the avoidance of fads. Sir William Bennett was of opinion that the habit of rushing off in the early morning to catch a train and the consequent necessity of a heavy lunch was one of the main reasons for ill-health among business men. Exercise was a necessity to some and harmful to others; a mentally or bodily tired man should not tire himself again by exercise. Professor W. D. Halliburton presided on the second day, the subject of discussion being the Health of the Warehouseman and Clerk. The President said that the necessaries of life were moderate exercise, fresh air, suitable diet, pure water, and sunshine. Dr. Murray Leslie advocated as an ideal routine one hour's rest a day, one day's rest a week, one week end once a month, and a good holiday once a year. On the third day the health of the factory worker was considered, Sir Thomas Oliver presiding. During the three days' conference every branch of health bearing upon life and work in the city was dealt with, including surroundings and air space; sedentary work; foods and feeding; nerve-strain and rest; recreations and holidays; the woman worker; the living-in system; and various other questions of interest throwing instructive light on "living in the city to the best advantage."

MEDICAL MAYORS.—The following members of the medical profession have been elected or re-elected to the mayoral chair: Mr. J. Young, M.R.C.S. Eng., L.R.C.P. Lond. (Bolton); Mr. W. I. Fern, L.R.C.P. Irel., L.R.C.S. Edin. (Congleton); Mr. S. R. Alexander, M.D. Lond. (Faversham); Mr. J. Parks, M.R.C.S. Eng. (Bury); Mr. W. S. Gibb, M.B., C.M. Edin. (Hartlepool); Mr. H. Stott, M.R.C.S. Eng., L.R.C.P. Lond. (Lewes); Mr. Nicolas W. Fowles-Humphreys, M.R.C.S. Eng. (Montgomery); Mr. W. R. Maurice (Marlborough); Mr. H. Stallard, M.R.C.S. Eng., L.R.C.P. Lond. (Newark); Mr. Owen Wynne Griffith, L.R.C.P. & S. Edin. (Pwllheli); Mr. J. P. Atkinson, M.D. Glasg. (Saffron Walden); Mr. E. Cureton, M.D. Brux., M.B., B.Ch. Birm., M.R.C.P. Edin, (Shrewsbury); Mr. G. W. Joseph, M.D. Durh. (Warrington); Surgeon-Major E. L. McSheehy, A.M.D. (Wimbledon).

THE LANCET.

LONDON: SATURDAY, NOVEMBER 16, 1912.

The National Insurance Act and the Administration of Sanatorium Benefit.

THE Representative Body of the British Medical Association meets next week to instruct the Council of the Association as to the action to be taken in respect of the administration of medical benefit under the National Insurance Act. The report on the whole question made by the State Sickness Insurance Committee of the Association, as revised and adopted by the Council, has been published in full in these columns, and it will be seen from this report, which we have already described as a strictly impartial document, that it is left to the Representative Body to decide whether the members of the Association should give service under the Act upon certain conditions, or whether they should hold aloof from its working. Very little purpose would be served by attempting to guess which course of action will be espoused by the Representative Body. The proceedings at the Council meeting in which the report to the divisions of the Association was adopted have been published in the *British Medical Journal*, and show frankly that there is a strong division of opinion in the Council on the matter, while the taking of one significant vote suggested that the parties in the Council are equally balanced. In the country a straight division of opinion is now known to exist, and while it is impossible to say on which side the preponderance of votes lies, it is certain that the latest offers of the Chancellor of the Exchequer have not produced the effect hoped from them. In particular the capitation fee of 6*d*. upon all insured persons, to be accepted as payment for the domiciliary treatment of phthisis, is coming in for much criticism.

The principles of the administration of sanatorium benefit under the National Insurance Act were generally accepted by the medical profession some time back, but as the result of recent alterations the situation is now one which many practitioners consider to be greatly to their detriment. The worst of professional unrest on this matter is that time presses terribly. Although the advantages of the Act in this direction were to have commenced in July, little advance has yet been made in practically carrying out the statutory provisions. A large amount of time and trouble have been expended in arranging tuberculosis services that might prove acceptable to all concerned. Amongst the resolutions which were passed at the last annual Representative Meeting of the British Medical Association were some that were directly concerned with the sanatorium benefit; included in these were certain proposals for the remuneration of general practitioners for domiciliary attendance—for at that time the finance of this benefit was separated from the general scope of the Act. A subcommittee of the State Sickness Insurance Committee of the British Medical Association in the early part of October drew up a model scheme for treatment of tuberculosis. This included detailed suggestions for the routine to be pursued by the general practitioner in charge of a patient suffering from pulmonary tuberculosis in conjunction with a chief tuberculosis officer. A scale of minimum fees was here adopted. These fees included 2*s*. 6*d*. for each visit at the patient's home, 5*s*. for consultation with the tuberculosis officer, 5*s*. for filling up a form ("Form Med. 2") containing a detailed report as to the patient's physical condition, with suggestions as to the treatment, and also other fees for more exceptional occasions. These fees had been accepted in certain districts, as has been pointed out in a vigorous letter in our columns by Dr. E. G. HAMILTON WILLIAMS,[1] whose words should be read by all. The Marylebone Provisional Committee met on Oct. 7th and drew up some criticisms of the scheme which somewhat simplified the procedure; but the scale of fees remained practically the same. In some things this sanatorium benefit seemed to be in fair prospect of realisation, although it was certain that the Local Government Board would have secured modifications of the plan, both generally and in detail, in places where it would have proved irksome on public grounds.

But the recent decision of the Chancellor of the Exchequer to give the "tuberculosis 6*d*." as a capitation fee on all insured persons in lieu of special fees for actual work has entirely altered the situation, and at present it is very difficult to forecast the effect of his suggestion on the working of this part of the Act. Mr. LLOYD GEORGE has stated that of the 1*s*. 3*d*. already provided in the Act for sanatorium benefit 6*d*. is to be set aside "for paying for all the work which the practitioner does in the treatment of tuberculosis." This pronouncement is a vague one, and it is difficult to express an opinion on it. In reply to a letter from Dr. ALFRED COX, medical secretary to the British Medical Association, as to whether the 6*d*. is to include the provision of drugs necessary for tuberculous patients, Mr. LLOYD GEORGE replied that "the 6*d*. from the Sanatorium Benefit Fund will be added to the funds available for the provision of medical attendance and treatment by practitioners on the panel. The 6*d*. is solely for the remuneration of the doctor, and no deduction will be made from it for provision of drugs or any other purpose." He gave no information as to how the sum was to be distributed. There are two ways in which this could be done. One would be to add the 6*d*. to the amount of the capitation fee due to each practitioner on the panel; the other would be to form a central fund, allowing 6*d*. for each insured person. Presumably the first method will be adopted, but this would be unsatisfactory for several reasons. The burden would fall unequally on practitioners in various districts, pulmonary

[1] THE LANCET, Nov. 2nd, 1912, p. 1244.

tuberculosis being most prevalent in crowded, unsanitary neighbourhoods. Further, it would not be fair to reckon that hard-worked practitioners will expend endless time upon early diagnosis, with the feeling that their skill may be rewarded by the charge of prolonged and expensive cases. If, however, the central fund suggestion is adopted—and this we believe to be undoubtedly the best course—then it may be possible to revert to a scale of fees and indeed to some scheme similar to those which have already received public sanction in several counties. Until further information is obtained as to the plan which the Chancellor of the Exchequer intends to follow, little purpose would be served by criticising any of the model schemes. They may require economical modification, and upon this point the Local Government Board will be heard.

There is another point in connexion with sanatorium benefit, to which we briefly referred in a leading article last week, and which will require anxious consideration by the governing bodies and medical staffs of our general and special hospitals. The establishment of dispensaries throughout the country for the treatment and prevention of tuberculosis—and we trust that these two functions will not be separated—will materially affect the attendance of patients suffering from tuberculosis, more particularly in the preliminary stages, at existing institutions. As the general practitioner is very rightly to take a prominent part under the Act in dealing with the tuberculosis problem, it is absolutely necessary that he should be properly educated in all the aspects of the disease. The proposal, therefore, that the dispensaries should be established in connexion with existing institutions has much to recommend it. Especially is this the case with the teaching schools, for thus students may have ample opportunities of seeing tuberculosis in all the stages. Many of the general hospitals are now considering the steps that would have to be taken in order to render their institutions the centre for the treatment of the disease in the district in which they are situated. There are doubtless difficulties to be overcome, both structural and administrative, but we believe and hope that these will be overcome. With regard to the special hospitals for diseases of the chest, the same remark applies; it would, indeed, be a matter for the greatest regret if the establishment of dispensaries in the neighbourhood of such hospitals attracted patients away from the older institutions, where every requirement not only for therapeutic purposes already exists, but where there are also the necessary laboratories and appliances for the scientific study of the disease. Multiplication of new establishments is to be most strongly deprecated, and we trust that the local authorities will realise the great advantage to them of coöperation with general and special hospitals.

Such are the considerations with regard to the administration of sanatorium benefit which the members of the medical profession should have before them while they are making up their minds as to further action. It seems certain that the "tuberculosis 6*d.*" is not regarded with a favourable eye in all quarters, and it goes without saying that where the medical profession had already come to an amicable agreement with authorities as to fees in return for the treatment of tuberculous persons Mr. LLOYD GEORGE'S offer is regarded as ensuring a certain loss of income. At any rate, dislike of this particular method of payment for the domiciliary treatment of tuberculosis is counting for something in the expressions of reluctance to work the Act which are reaching us, while all the other reasons for antagonism remain in force. A meeting of the National Medical Union was held on Saturday afternoon, Nov. 9th, at Manchester, the proceedings of which are reported in another column. The meeting was largely attended, and a resolution was adopted unanimously declaring that the conditions of service, notwithstanding the new proposals, were intolerable and would destroy for ever the independence of the profession. A second resolution affirmed that the National Medical Union would take independent action if the Representative Body of the British Medical Association should vote in favour of the attempt to work the Act. No action so strong as this has been taken by those who are willing to make trial of the Act and to fall in with the Chancellor's proposals as now amplified. There is known to be a large section of the medical profession who are not in agreement with the views of the National Medical Union, but from numerous parts of the country meetings have been reported during the week at which resolutions adverse to working the Act have been adopted. The Joint Committee of the English Universities and the English Conjoint Board have reported adversely to the Provisional Regulations as dangerous to professional independence.

Secret Remedies.

A NOTEWORTHY indication of the growing interest taken in the important subject of secret remedies by the best class of public opinion is afforded by an article in the *Edinburgh Review*, in the current number of which Mr. HUGH ELLIOT deals at length with the recent literature of secret remedies. The *Edinburgh Review*, now under the editorship of Mr. HAROLD COX, has, as its frank sub-title, "critical journal," but its criticisms, if we mistake not, have generally dealt with matters literary and political. Here, however, we find a scientific writer—Mr. ELLIOT has recently attacked M. BERGSON with delightful violence from the point of view of the Old Guard of science—dealing with a subject hitherto chiefly confined to the pages of the medical journals, and this comparatively new departure by one of our premier lay reviews augurs well for the future. It is especially desirable that educated laymen should examine into the question of the sale and vogue of proprietary medicines, for, as Mr. ELLIOT points out, the cultured are as great offenders as the semi-illiterate in the matter of self-medication or in the giving of testimonials. In order to stem the tide of folly, of which this is an example, it appears, therefore, necessary to educate everyone, while we see that the educational war against quackery, though well afoot, is still modern and somewhat academic. It can scarcely be described as popular, and the question that faces the sincere medical reformer is how to bring it down to the level of the public consciousness without detracting from its scientific character. Quackery, indeed,

dies very hard. In the early part of the eighteenth century, long after the day of the SYDENHAMS and the HARVEYS, it could still be descried as flourishing comfortably in the corners of drowsy academies and in medical practice. Nor could it be said to have loosened its clutch upon a gullible public in that not too far-distant epoch when the apothecary, a humble individual, crept up the back stairs of those whom the early Victorians called "the great." The word apothecary spelt polypharmacy. The old apothecaries prescribed lavishly, and their patients were inclined to place implicit confidence in those among them who dosed the most. "Physic" even in the schoolboy days of some of us was conceived of as something both drastic and nauseating, and the more a patient took of it, and the more wry faces he made in the taking, the more he was held to be benefiting himself and honouring medicine.

At the present day the great mass of the public may still be said to hanker after "physic," and when it does not receive it from its qualified medical advisers it is fain to pay for it in the guise of all sorts of quack preparations. There is an element of mystery in the well-appointed bottle, or jar, or chip-box, with their printed labels and concomitant puffs, for which the ordinary man, not otherwise credulous, is willing to pay a high price. The booklets issued by many quack medicine-vendors are very models of persuasion, and may be said to form a branch of literature as distinctive as the chap-books of old. Terrible in their grotesque luridness, he must be a robust sceptic who can resist their dread appeal! The puff of the quack influences an uninstructed man to a degree which the cultivated and the scientific cannot readily understand. He reads, and swallows his opinions in platoons, and until he can be educated out of this habit it seems hopeless to expect the public at large, mainly composed as it is of individuals like himself, to adopt a rational attitude towards the subject of medication. To educate this kind of individual, and through him the public, into a just appreciation of the evils of quackery is one of the problems of the day. But unlike many problems it is not insoluble. Nor need it be very expensive. Already we note hopeful signs that the crusade against secret remedies is taking rank with the crusade against drink. The average unlettered man has become dimly aware of the fact that the much-advertised pills and ointments to which he and his like have hitherto pinned their faith are not what they profess to be. He may be entirely ignorant of the findings of Select Committees, of the existence of the *exposés* of secret remedies published under the auspices of the British Medical Association, or of such articles as those which appeared in THE LANCET a few years ago on abortefacients, but he has begun to listen to street-corner demonstrations of the composition of some proprietary medicines, and he has profited by the startling knowledge thus gained. Gradually, we imagine, the semi-illiterate consciousness, which counts for so much more in these democratic days than some allow, will acquire an anti-quackish bias. The process will be slow at first, but in time it will quicken cumulatively, and it will be spontaneous for the most part. The social historian need only cast his eye back to the time when bull-baiting, the torture of maniacs, and slavery were regarded with approbation or equanimity. This was in the latter half of the eighteenth century. But already in 1771 a voice was raised against slavery by HENRY MACKENZIE, the "Man of Feeling," and in less than 50 years the slaves in all our colonies and dependencies were set free. What we call slavery had been a traditional system in the social schemes of the world as far back as our records go; yet in a few years a large part of civilisation abolishes the system, and abolishes it so utterly that its existence in a nation is good cause for questioning if that nation be truly civilised. Similarly, quackery may have been with us since the dawn of history, and then the world may suddenly wake to the ghastly folly of its manifestations.

Apart from education, there are other influences which, consciously set in motion and capable of control, can assist the amelioration of bad customs and foolish popular ideas. There is legislation, for instance. Now, whatever we may think of the National Insurance Act from the point of view either of professional tradition or of business acumen, we can assert that it is not on the side of the quack medicine vendor. No one can fail to see that the Act is a shrewd blow against quackery, a matter which has not received quite so much attention as was due to it. Indolence and motives of economy will assist reasonableness when the average State patient is faced by the alternative of going into a shop to spend 2*s.* 9*d.* on a bottle of proprietary mystery or of obtaining his orthodox medicine for what will seem at the time next to nothing. The quack medicine vendor will, of course, die hard. At present he influences the press to an alarming, an incalculable extent, but the same causes which make for the enlightenment of the patient will purify the advertisement columns of the newspaper. A time, perhaps, is not far distant when we shall think it absurd to take our politics and our ideas in general from journals whose back pages are perverted to the base service of discredited nostrum-mongers.

Annotations.

"Ne quid nimis."

THE ARTIFICIAL BLEACHING OF FLOUR.

A FURTHER report was published last week by the Local Government Board on the question of the artificial bleaching of flour by the use of nitrogen peroxide. Dr. G. W. Monier-Williams, the author of the report, deals with the suggestion that the normal colouring matter of flour is identical with the colouring matter of the carrot (Daucus carota), carrotene, and has found that a comparison of the absorption spectrum of a petroleum ether extract of flour with that of pure carrotene in the same solvent indicates that the colouring matters are either identical or closely related, the position of the bands in both cases being practically the same. A preparation of pure carrotene was eventually obtained, and a standard solution of this in petroleum ether was used to estimate by colorimetric comparison the amount of colouring matter in flour. It was shown that one-third of the colouring matter in flour is destroyed by bleaching as usually carried out commercially. The bleaching is due to the formation of an addition compound

of nitrogen peroxide with the colouring matter. The compound formed is insoluble in water. It has been urged that the natural bleaching of flour by storage is a process similar to that which takes place in the bleaching plant, the only difference being that artificial bleaching effects in the course of a few seconds what would, under ordinary circumstances, require one or two months for completion. In other words, the same ultimate result is attained whether the flour is bleached rapidly by the use of comparatively large quantities of nitrogen peroxide, or slowly by the gradual absorption of nitrogen peroxide from the atmosphere. Subsequent experiments showed that the colour of carrotene may be discharged either by the oxygen of the air or by nitrogen peroxide, the processes, however, being quite distinct and resulting in the formation of different substances. Thus, pure carrotene on exposure to air is bleached by absorption of oxygen, but no oxides of nitrogen are absorbed from the air. The inference is that the natural ageing of flour is a similar process, and that in the bleaching of flour by nitrogen peroxide certain substances are produced which are not produced during the natural ageing of flour. The attempt, therefore, to justify bleaching flour with nitrogen peroxide on the ground that it is merely copying, but hastening, a natural process of bleaching (i.e., by ageing) must fail.

CURE OF INOPERABLE CANCER OF THE CERVIX UTERI BY RADIUM.

AT a meeting of the Société Médicale des Hôpitaux of Paris on Oct. 11th MM. H. Chéron and H. Rubens-Duval reported a case of inoperable cancer of the cervix uteri cured by the more penetrating rays of radium. The case is important because the proof that the disease was cured was complete. Some time ago they reported a number of inoperable cases of cancer of the cervix uteri in which under this treatment cancerous masses regressed and ulcers healed so that the uterus could be removed, and others in which the local disease completely disappeared, but in none was it proved that the patient was cured.[1] In some of the cases there were distant growths which were not influenced. In the present case a woman, aged 49 years, who had two children, was seen on Nov. 26th, 1910. Since September, 1908, she had wasted considerably and suffered from pains in the loins, but not until September, 1910, did she complain of metrorrhagia, which alternated with fœtid leucorrhœa. She saw at the Saint-Antoine Hospital Dr. Lejars, who diagnosed inoperable cancer of the uterus, and sent her to MM. Chéron and Rubens-Duval for radiotherapy. On examination there was a large vegetating tumour of the right half of the cervix, which was friable and bled easily on being touched. The base of the right lateral ligament was infiltrated. A fragment of the tumour was removed and on microscopic examination showed the characters of squamous epithelioma. 20 centigrammes of radium, distributed in several tubes of silver or platinum half a millimetre thick, were implanted in the tumour and left there for 48 hours. On Jan. 10th, 1911, the general condition was improved and the discharge was arrested. The growth had considerably diminished and become firmer. On being touched it bled little. The uterus was more mobile, although there still existed some infiltration of the right lateral ligament. On Jan. 23rd 7 centigrammes of radium were introduced into the tumour as in the preceding manner and left in position for 24 hours. On Feb. 21st the general condition was excellent, the appetite was good, and the patient slept well. There was no discharge, and digital examination did not cause the slightest hæmorrhage. The cervix was small and sclerous and the uterus was mobile. In such cases MM. Chéron and Rubens-Duval always recommend operation, since it is unsafe to trust to apparent cure, as a uterus apparently perfectly cicatrised may contain a focus of cancer that may lead to recurrence. As the patient was now operable she was sent back to Dr. Lejars, who examined her on March 21st and found a mass of the size of a hen's egg in the right lateral ligament. This finding MM. Chéron and Rubens-Duval were surprised to confirm, for on Feb. 21st they had found the ligament unaffected. They did not doubt that the mass was cancerous, and thinking that the treatment had failed they discontinued it. In November they saw the patient again. She complained of lumbar pains radiating into the limbs. On examination they were again surprised, for there was no mass in the lateral ligament. The cervix had further shrunk and the uterus was perfectly mobile. Except for the pains the patient appeared to be in excellent health. It was thought that the pains were due to compression of the roots of the sciatic nerve by cancerous glands, but no signs of these could be found. In January, 1912, the uterus was in the same state as before, but there were nervous symptoms—difficulty in walking and in speech and mental impairment. The patient was examined by Dr. Siredey, who found Babinski's and Romberg's signs, and diagnosed softening of the nervous centres. On April 3rd she had a "stroke" and left hemiplegia followed. The respiration became difficult and she died on April 17th. The necropsy showed considerable hæmorrhage beneath the spinal meninges and numerous foci of softening in the spinal cord, medulla, pons, and corpora striata. The basilar artery and circle of Willis were atheromatous. The heart was hypertrophied and the kidneys were slightly sclerotic. The uterus and its annexa were sound to the naked eye. The base of the right broad ligament was a little thickened but not hard. The vaginal portion of the cervix uteri had disappeared and the vagina terminated like a funnel in the canal of the cervix. Careful palpation of the iliac vessels did not reveal any enlarged glands. Numerous sections of the cervix and right broad ligament were examined microscopically without revealing a single cancer cell. The thickening of the broad ligament was due to fibro-lipomatous tissue.

[1] THE LANCET, Sept. 28th, 1911, p. 1213.

THE ROYAL MUMMIES.

THERE has recently appeared, as a part of the Catalogue Général des Antiquités Égyptiennes du Musée du Caire, a volume from the pen of Professor G. Elliot Smith which constitutes a most remarkable addition to our knowledge of the reality of the rulers of ancient Egypt.[1] The embalmer's art has preserved the remains of the Pharaohs for all time, save in those cases in which the cupidity of their own subjects has led to the plundering of their graves and the partial or complete destruction of their bodies. Such as are left are happily removed beyond the reach of the spoiler, and now in this volume every detail of their preserved remains is placed on permanent record. All the characters of their physical types, their features, their deformities and defects, their diseases—even their grey hairs and their abdominal corpulency—are noted with rigid scientific accuracy of detail. There may seem to some people an impudence—even an indecency—in this, and Professor Elliot Smith has done well to point out in his preface that what desecration was done to the Pharaohs was wrought some 29 centuries ago, and was at the hands of native plunderers, from whose destructive vandalism the archæologists have

[1] Service des Antiquités de l'Égypte: Catalogue Général des Antiquités Égyptiennes du Musée du Caire. Nos. 61051-61100. The Royal Mummies, by G. Elliot Smith, F.R.S. Le Caire: Imprimerie de l'Institut Français d'Archéologie Orientale. 1912. Price Pt.300 = £E.3 77 francs). Pp. 118 + 103 plates.

rescued these venerable relics. To describe the preserved tissues of a one-time mighty monarch, and even to lay bare all his infirmities and weaknesses, so that a true light may be thrown upon contemporary history, is a trivial sacrilege compared to hacking his body to pieces in search of a scarab or an amulet. These mummies have been rescued from the spoiler, and in the state in which they have been rescued they have been described; some have been mended by the replacement of fragments dislodged by the ancient plunderer; none have been desecrated. It is a remarkable page of history that is unfolded. The wounds that caused the death of Saqnounri (Sekenenre) III., last monarch of the Seventeenth Dynasty, are described in detail so exhaustive that the conclusion that they were inflicted while the victim was lying upon his right side is inevitable. The Lady Rai is revealed as "a slim, gracefully-built woman, with small or only moderately full breasts, ... a small, oval face, graceful and well proportioned; and so well preserved that she is the least unlovely of all the mummies of women that have been spared." The baldness of many Pharaohs is noted, defective conditions of the teeth were common, and even the poor club-foot of Siptah is shown in an admirable photograph. Perhaps the personality to which the greatest lay interest is attached is that of Meneptah, the Pharaoh of the Exodus. Of him we now know the most astonishingly intimate details: how he was old, and almost totally bald; how he was somewhat corpulent, though with those refined features that distinguished his grandfather Seti the Great. It is clear that Meneptah had suffered from atheroma of his arteries, and his aorta has furnished material for an exhaustive investigation at the Royal College of Surgeons of England. This great work furnishes not only a permanent description of all the known remains of Egypt's ancient kings, but it also forms a most important contribution to our knowledge of the evolution of the processes of embalming. Upon this side of the question Professor Elliot Smith is particularly well qualified to dogmatise; and it is evident that his knowledge of the customs of the embalmers of different periods adds in many cases to the certainty of identification of the actual mummies. As a portrait album of the rulers of Egypt the plates, of which there are 103, stand unrivalled. The reproduction of the series of photographs taken by Brugsch Pasha has been carried out to perfection, and the frontispiece, which depicts the head of Seti I., is a work of real beauty, reflecting as it does the atmosphere of serenity which is so striking a feature of this example of the art of embalming.

PROGRESS OF THE REVISION OF THE UNITED STATES PHARMACOPŒIA.

IN the *American Druggist* for September Dr. Joseph P. Remington reports progress with the forthcoming edition of the United States Pharmacopœia. The question of admissions and deletions gave rise to considerable differences of opinion, a minority of the committee believing that only a limited number of drugs and preparations should be admitted to the pharmacopœia. The subject of admitting controlled products which are patented, copyrighted, or otherwise monopolised has been much debated. Manufacturers and their agents have been very active in insisting on their legal rights in protecting their property. On the other hand, physicians have been lukewarm, and the majority insist on prescribing anything which they believe will aid their patients to recover health. The great difficulty regarding such products lies in the danger of introducing into a pharmacopœia any substance over which there can be no control as to identity, purity, and strength. The manufacturers almost unanimously declare that they do not care whether the United States Pharmacopœia admits their products or not. Naturally they do not care to have any authorised supervision over their property, and so long as their sales are not interfered with they do not want to be hampered in any way. The courts have recognised proprietary rights in medicines, and the official recognition of controlled products in the pharmacopœia would amount to an advertisement that such products had found favour in the sight of the committee of revision.

OCTOBER AT HOME AND ABROAD.

OCTOBER brought a great variety of weather to this country, but as a whole it was much less stormy and less rainy than usual, while during the early part of its career it was brighter and drier than during the greater part of the summer. The temperature, which was low enough to give sharp frosts with the bright clear nights of the first week or so, subsequently varied greatly, and late in the month, under the influence of a southerly rain-bearing wind current, it became high for the time of year. As a result the mean warmth for the whole period differed little from the average over the kingdom generally, although it was a little below it in some parts of England. In the metropolitan district the mean maximum warmth of the afternoons was 55°, or 1° below the normal, but the mean minimum temperature of the nights was as low as 39°, or 4° below the average. This was the reverse of the summer months and September, when the temperature of the nights was not so much below the normal as the temperature of the day. In the Midlands the day temperature was about the same as in London, while the nights were rather colder. Some exceptions occurred locally. Bath, for instance, was 3° warmer than London during the day and 3° colder at night. At Harrogate, on the other hand, the nights had the same mean temperature as London, and the nights were 2° colder. The Scilly Isles and the extreme south-west of England were, as usual in October, much milder at night than the other parts of the kingdom. At Scilly the mean minimum temperature was as high as 48°, and at Newquay 44°. In most parts of the country the total duration of sunshine for the month was above the average. In London (at Kew) the figure was 113 hours, exceeding the average by 20 hours. At Bath, and also at Newquay, there were 133 hours, and at the Scilly Isles 140 hours, or 23 more than the normal. At Nottingham, however, the aggregate was only 93 hours, an excess of eight hours on the average, and at Aberdeen, where there were no more than 74 hours, there was a deficit of 23 hours. Some of the South Coast resorts enjoyed a really sunny October. At Brighton the sun shone for 147 hours, against an average of 120 hours. Most days during the earlier half of the month were dry, and although rain fell on many days subsequently, the total quantity for the month was not generally in excess of the average, and it may be noted that the October average is the highest of the whole year in nearly all parts of the British Isles. In London there were 17 days with more or less rain, giving a total fall of 2·20 in., just 0·5 in. below the normal. In the Midlands, as represented by Nottingham, there were only 12 days with rain, yielding 2·40 in., but at Bath rain on 16 days yielded a larger total, the figure being 4·60 in., as much as 1·2 in. above the average. In the extreme south-west of England about 3·5 in. fell on 18 days, but in some parts of South Devon the amount was much larger. On the Continent the condition of the weather differed little from that of a normal October except that the temperature was almost everywhere low. In Italy, where rain was only occasionally experienced, the thermometer rose to 70° or above to the southward of

Rome, and often touched 70° further north during the early days of the month, but sometimes, when the sky was overcast, it barely rose to 60°. In France the weather was generally dry until rather late in the month, and although sunshine was not lacking, the temperature hardly ever reached the normal for the month. At Paris, where the thermometer failed to touch 70° at any time during the month, and sometimes during the last fortnight remained below 50°, the mean maximum of the afternoons was 59°, or 4° higher than in London, and the night minimum 40°, or 1° higher than in the London district. Rain fell on 13 days, and the total amount was 1·8 in., while the sun shone for an aggregate of 127 hours. This figure is only 14 hours above that at Kew, and 20 hours less than at Brighton. Berlin was much colder and also drier than both Paris and London. Only 11 days gave rain, yielding a total of rather less than an inch. The mean maximum temperature was no higher than 50° and the mean minimum 33°. These figures are considerably below the October average. At Brussels both the mean maximum and mean minimum temperature were almost identical with those at Kew, but rain was less frequent, falling on only 13 days, and giving a total of 2·5 in. Like the rest of France, Biarritz was cold for the time of year. Although the thermometer rose to above 70° on a few days early and late in the month, the mean maximum was only 64½° and the mean minimum 52°. Rain was rarely experienced, but as the extremely heavy fall of 3·8 in. occurred on the 22nd, the total for the month was as much as 6·3 in.

RECENT RESEARCH ON MALARIA.

IT is not always an easy matter to determine the source or sources of infection in malarial fever; in some cases so many of these are possible that the difficulty is not to discover *a* source, but to decide (for practical purposes) which is the most probable one, and the one most needful to be attacked. On the other hand, malaria occurs in unexpected situations; and although there is no doubt either as to the cause or as to the way in which the cause acts—that is, how the infection is conveyed—it may be difficult sometimes to discover what are the conditions that make this conveyance of infection possible. Major A. B. Fry, I.M.S., has been investigating malaria in Chota Nagpur, a low-lying province adjoining Bengal to the west, but having elevated plateau areas. The results are detailed in the issue of *Paludism* (1912, No. 5) for September. It was found that the spleen index in children in villages in the plains averaged 1·6 per cent.; in the plateau villages it was 7 per cent.; in the villages at the foot of the hills 88·4 per cent. In the plains the villages are surrounded with rice fields during the rains, but during the greater part of the year there is no water, there is therefore no perennial source of mosquitoes and no fever. On the plateaux the conditions are much the same. The villages at the foot of the hills would naturally have a large mosquito population (and fever prevalence), the hill streams during a considerable part of the year containing pools suitable for their breeding. But one village, Angarah, though situated high up on the very edge of the plateau, with no standing water near at hand, nevertheless gave a spleen index of 93 per cent. in children; all the adults examined (22) had enlarged spleens, and the police constables were all suffering from fever, though constantly changed. The place was found to be swarming with anopheles, yet there was no water about of any consequence, and no breeding places could be found. The explanation appeared to be that a bazaar or fair is held there twice a week, to which the surrounding villagers come, bringing with them the infection; many remain until nightfall. Major Fry considers that fairs such as these are prolific sources of malarial infection all over Bengal. In another note Major Fry refers to the abundance of small fish in the tanks and permanent collections of water in Lower Bengal. If kept free of weeds, with clean-cut sides without grass or bush, and with no shelving, they are always free from mosquito larva, owing to the presence of haplochilus and other forms of small fish; but if weedy both culex and anopheline larvæ are present; if the edges are shelving, and there is little weed, only anopheline larvæ are found. The edges of "tanks" (i.e., small lakes or pools) should be steep cut and kept clean, and weeds removed. Importation of foreign culicide fish is unnecessary, as the indigenous fish are well able to deal with mosquito larvæ, if they can get at them. Major E. L. Perry, I.M.S., has a note on the use of a drop of bile on the microscope slide, when making fine dissections, where evenness of the film of fluid is important. As Lord Rayleigh has pointed out, there is great difficulty in absolutely removing grease from microscope slides; a drop of bile causes any grease that is present to mix evenly with water or saline solution, so that a perfectly uniform film results, in which insect dissections can be performed with facility. Several other papers make up a valuable issue of this periodical, which is indispensable for workers in tropical medicine and hygiene.

THE MECHANISM OF DISINFECTION.

A VALUABLE contribution to our knowledge of the mechanism of disinfection appears in the October number of the *Bio-chemical Journal*. The author, Mr. E. A. Cooper, B.Sc., Beit Memorial Fellow, formerly Jenner scholar, Lister Institute of Preventive Medicine, points out that in the case of such substances as formaldehyde, halogens, mercuric chloride, oxidising agents, acids, and alkalies, it is possible to understand why they should behave as disinfectants, since they all form chemical combinations with proteins. But we possess very little knowledge of the relations of phenols and the cresols to proteins, so that at present it is not possible to explain the nature of the germicidal action of these common disinfectants. From the experiments tried the depreciating effect of alcohol upon the bactericidal action of phenol is explained by a reduction in the absorptive capacities of the bacterial proteins for this substance. The action of hydrochloric acid in increasing the germicidal power of phenol, on the other hand, is only partially explained by a redistribution of phenol between water and proteins. The depressing effect, again, of separated milk upon the germicidal action of phenol is due to the absorptive capacity of the constituent casein for this substance. The great increase observed in the germicidal power of phenol when the temperature is raised is not explained by the influence of temperature upon the distribution of phenol between water and proteins. The superiority of meta-cresol to phenol as a germicide appears, according to these experiments, to be due to the fact that cresol precipitates proteins in lower concentrations than phenol. Finally, the selective action of phenol as a germicide upon different organisms seems to be associated with the observed dissimilar susceptibilities of proteins to its precipitating action. Concluding, the author regards the absorption of the phenols by bacteria as merely the initial stage in the process of disinfection. The germicidal action which follows the absorption does not seem to be the result of a typical chemical union between the phenols and bacterial proteins, as is the case, for instance, with formaldehyde, but is apparently associated with the de-emulsification of the colloidal suspension, as evidenced by the precipitation of proteins when a certain phenol concentration is attained. In the case of egg albumin the change is irreversible, and the precipitated protein is not again dispersed

on the removal of the phenol. It is probable, therefore, that the germicidal action of phenol is similar in mechanism to that of heat. It is suggested that this interpretation of the process of disinfection by phenol may explain the fact that below certain concentrations (about 0·5 per cent.) the tar acid exerts but a very feeble bactericidal action, there being a disproportionate falling off in germicidal power when the concentration is reduced to this point. We should like to see this inquiry extended to the case of soapy emulsions, and more particularly to the essential oils, which Mr. W. Martindale has shown may exhibit a stronger germicidal action than the phenolic bodies. We seem to know very little about any affinity existing between essential oils and proteins, although such exists between these latter and the members of the carbolic series.

HUTCHINSON'S "ARCHIVES OF SURGERY."

IN April, 1899, appeared the first number of a periodical written almost entirely by Sir Jonathan Hutchinson and dealing with surgery and dermatology, and the numbers were issued regularly until ten volumes had appeared, but for the last ten years no number has been issued. Now the eleventh volume has been published, and in it Sir Jonathan Hutchinson informs us that the work has come to an end, not for want of material, but because his health no longer permits him to carry on the work. Every number contained a wealth of clinical experience, of immense value to all engaged in clinical work; and the cessation of the "Archives" must cause great regret to all who value clinical experience. The keenness and energy of Sir Jonathan Hutchinson in observing and recording his observations and opinions have probably never been surpassed, and as he tells us that he has a large amount of material already prepared it seems to be a great pity that it should be lost to the surgical world. May we hope that the assistance of others will be invoked to give to surgery some of the valuable stores he still possesses?

SEVEN-DAY FEVER IN THE PANAMA CANAL ZONE.

IN the *Journal of the American Medical Association* of Oct. 26th Dr. W. E. Deeks, chief of the medical clinic of the Ancon Hospital, reports an outbreak of a fever of doubtful nature which has spread rapidly and caused serious illness, though without any mortality hitherto. It began with the two post-office clerks who deal with the incoming home and foreign mails, spread to the rest of the male clerical staff of the post-office, and thence to the occupants of neighbouring apartment houses. It is apparently a highly infectious disease, the infection being conveyed during the incubation period and not after the symptoms have appeared. There is no special prodromal stage; the onset is abrupt, with rigors or chilly sensations, followed by a sharp rise of temperature to 101°–104° F. After six days of practically continued fever with small morning remissions a rapid fall occurs. Relapses do not occur. The pulse and respiration are but little quickened. The spleen is always palpable and definitely enlarged; not so the liver. There is no special blood change, but the urine always contains albumin with a few casts. In two cases the albuminuria was severe and the casts numerous; even in these, however, defervescence was quickly followed by disappearance of the urinary changes. During the attack the chief symptom is anorexia; occasionally there is vomiting at the onset. Vague pains, such as are the rule in pyrexial states, were noted in the head, back, and limbs. Sudaminal eruptions are common, and Dr. Deeks thinks that there is in most cases a general erythema soon after the onset. In severe toxic cases petechiæ have been noted. The incubation period is probably about ten days. All efforts at discovery of the causal infective agent have hitherto failed, whether in the blood or excreta. That the disease is not malarial is shown by the course of the fever and the absence of plasmodia from the blood; it does not belong to the typhoid group of infections, since it fails to yield any of the specific serum reactions; and its course serves to differentiate it from dengue, influenza, and typhus fever. The treatment adopted (quinine and salicylates) has exercised no definite effect on its course. Dr. Deeks thinks this disease is identical with that described by Professor Leonard Rogers as "seven-day fever of Indian ports," and that the fact that the epidemic began with post-office clerks sorting mails from foreign ports indicates its letter-borne origin. The epidemic—the first of its kind since the American occupation of the Canal Zone—has spread from Ancon to Panama city. Dr. Deeks remarks that it will be interesting to see if it remains in the Panama area in epidemic form.

MEDICO-LEGAL MUSEUM.

THE members of the Medico-Legal Society may be reminded that the society has agreed to assist in the formation of a Medico-Legal Museum at the Royal College of Surgeons of England. They are requested to send specimens, in the name of the society, to the Curator at the Royal College of Surgeons, Lincoln's Inn-fields, London, W.C. Any member who is willing to exhibit medico-legal specimens during the proceedings of this session should communicate with the honorary secretaries of the society, Mr. Roland Burrows, 3, Elm-court, Temple, E.C.; and Mr. J. Howell Evans, 25, Berkeley-square, W.

THE next session of the General Medical Council will begin on Tuesday, Nov. 26th, when the President, Sir Donald MacAlister, will take the chair at 2 P.M.

LONDON COUNTY COUNCIL AND MEDICAL AFFAIRS.

Provision for Sanatorium Benefit in London.

ON Oct. 22nd a letter from the Local Government Board was presented to the Council with reference to the arrangements which should be made in London for the provision of sanatoriums and other residential institutions for the treatment of persons suffering from tuberculosis. The Departmental Committee on Tuberculosis had asked whether some of these institutions should not be provided by the Metropolitan Asylums Board, and the Asylums Board had indicated its willingness to undertake this work, if authorised to do so. As, however, the London Insurance Committee were precluded by the terms of the Act from entering into arrangements with the Asylums Board for the reception of tuberculous insured persons, legislation would be required before the suggestion of the Departmental Committee could be carried out. The Government had decided that it would be impracticable to obtain such legislation in the near future, and the Local Government Board therefore suggested that the London County Council should act in this matter.

In a report dealing with this letter on Nov. 5th the Public Health Committee agreed as to the need for a central organising authority in each county owing to the number and distribution of municipal, charitable, educational, and other institutions which would form part of the machinery for dealing with tuberculosis. The scheme of supervision outlined in the report of the Departmental Committee centred upon the county councils, and there was nothing in that report inconsistent with the view that it was contemplated that in London, as in other parts of the country, the authority to be entrusted with the organising and supervisory duties should be the London County Council. This was consonant with the special

position held by the County Council in London with regard to public health. If this was the intention of the Local Government Board it was essential that the point should be made quite clear and the necessary authority provided. The committee felt that the Council would not desire the settlement of this question to interfere with the provision at the earliest possible date of institutional treatment for persons in the county suffering from tuberculosis, and the committee proposed, therefore, without prejudice to any future action, to make preliminary inquiries as to the provision of the necessary temporary accommodation. Meanwhile, the committee recommended that the Local Government Board be asked whether it intended to place the London County Council in the same position as other county councils in regard to tuberculosis treatment. Commenting on this proposal the Finance Committee remarked that the letter from the Local Government Board gave rise to many questions of great financial importance to the Council. As to the suggestion that the Public Health Committee should communicate with the Metropolitan Asylums Board and other authorities, the Finance Committee was of the opinion that in the present uncertain state of affairs nothing should be done which would in any way commit the Council to any particular course of action with regard to making either permanent or temporary arrangements.

Appointment of a Medical Superintendent at Farmfield Inebriate Reformatory.

The Public Control Committee stated that, having regard to the fact that a very large percentage of the women admitted to the Farmfield Inebriate Reformatory had proved quite unsuited for detention there, and many cases were of a very troublesome and refractory nature, the question had arisen whether the existing arrangements under which the reformatory was managed were the most advantageous. At present a lady superintendent was the principal officer at the institution, and the medical side of the work was performed by a visiting medical practitioner. The duties of the superintendent of such an institution were onerous and exacting, and the committee was of opinion that the responsibilities were such as could not reasonably be expected to be undertaken successfully by a woman. The alternative was that a whole-time medical man should be placed in charge of the reformatory, especially since during the last few years the complexion of the work there had undergone a great change. The value of the appointment of superintendent was approximately £200 a year, and the present medical officer received a salary of £120 a year, out of which he had to provide medicines. The committee's proposal was not likely to cause an increased expenditure, as in its opinion it would be possible to obtain a suitable medical man for the combined positions at a salary of £300 a year, with fire, light, and residence.

On the recommendation before the Council some discussion arose. An amendment was moved that the words "or woman" be inserted after the words "fully qualified medical man."

Mr. M. TASKER protested against the proposal to ask a man with full medical qualifications to accept this position at a paltry salary of £300 a year. The Council required the services of a medical practitioner who had specialised in a particularly disagreeable and difficult branch of work. The proposed salary was about half the sum the Council should offer.

The Rev. Dr. SCOTT LIDGETT thought that the institution should be controlled by a medical man, a competent woman being appointed to the principal staff. In this work the sympathetic influence of a woman was of even more importance than medical treatment. It would be an advantage, perhaps, to secure the services of a woman with medical qualifications. The influence of a matron must be inferior to that of a woman who was capable of undertaking the scientific medical treatment of this terrible complaint. The wisest course would be not to prejudge the question by barring out all possible women candidates, but to decide after the replies to the advertisement had been received.

Mr. W. HAYDON, chairman of the Public Control Committee, mentioned that one of the duties that fell to the officer in charge of the reformatory was the superintendence of a 400 acre farm. He agreed that the salary suggested by the committee was too low, but he believed that for the successful management of the institution there must be a medical superintendent.

Mr. YEO thought the proposed salary ridiculous; it should be at least £600.

Mr. EDWARD SMITH contended that all the aspects of the matter were not made public in this report; he had long felt that the whole administration of the reformatory needed overhauling, and he urged that the report might be taken back and a complete statement made.

After Mr. T. HUNTER had expressed the opinion that a whole-time medical superintendent was not needed for an institution containing only 100 patients, the chairman of the committee took back the report, promising to submit a more exhaustive review of the working of the establishment.

Arrangements for Medical Treatment During 1912–13.

An exhaustive report was presented to the Education Committee of the Council on Nov. 6th with regard to the arrangements proposed to be made during 1912–13 for the medical treatment of London school children.

The Children's Care Subcommittee recommended that provision should be made during the year ending July 31st, 1913, for the treatment of 48,613 defects, or omitting minor ailments, of 39,238 defects. During the year ending Dec. 31st, 1911, the total number of eye, ear, nose, and throat defects, and ringworm cases treated was approximately 65,000, and during the year ending July 31st, 1912, 60,000. It was estimated that one-third of the defects would be dealt with apart from the arrangements made by the Council. On this basis, and taking 60,000 as the number of defects which would be found on inspection to require treatment during the year 1912–13, provision for the treatment of 40,000 was necessary. The subcommittee was of opinion, however, that provision for the treatment of 39,238 defects would be sufficient, so far as that proposed for eye, ear, nose, and throat defects was concerned, but some extra accommodation for the treatment of ringworm might possibly be needed, and this question was under consideration.

The authorities of the institutions included in the scheme sanctioned by the Board of Education until Dec. 31st, 1912, were willing to renew the agreements, but in five cases this consent was conditional. The subcommittee described in detail the arrangements made at the various hospitals and centres for "following up" after treatment, and said that these would be continued in each case.

Dental Treatment.

The subcommittee also stated that it had had under consideration arrangements for the dental inspection and treatment during the year 1912–13 of children attending elementary schools. In order that dental treatment might be of permanent value it was necessary that arrangements should be made for each child to be re-inspected by the school dentist, and any further treatment which might be required as the result of such re-examination carried out. It was proposed that the area from which children attended the centres should be so arranged as to enable the inspecting dentist to visit each school once a year. Children examined for the first time when 6 or 7 years of age would come under the notice of the inspecting dentist when 7 and 8 years of age respectively under the existing scheme, but it would be necessary to make special provision for the re-inspection of children after they reached the age of 9. Arrangements for such an extension of the scheme will shortly be considered.

London Street Ambulances.

At the meeting of the Council on Nov. 12th an urgency report by the General Purposes Committee on the question of street ambulance provision in London was presented. The Council approved the recommendation of the committee that powers should be sought to coördinate existing authorities for street ambulance purposes, so as to secure an efficient London ambulance service.

The London Milk-supply.

The President of the Local Government Board on Nov. 14th received a deputation from the London County Council urging the necessity of legislation to deal with the milk-supply of London.

Peckham (L.C.C.) Medical Treatment Centre.

This institution, at 412, Old Kent-road, was opened by Dr. W. H. Hamer, the school medical officer, on Nov. 8th. The premises consist of a waiting-room, a consultation-room

for eye and throat cases and for minor ailments, an x ray room, an operating theatre, and room for preparing the patients for operation and for subsequent recovery. The centre commenced work on Nov. 11th, the following medical staff having been appointed by the London County Council:—Anæsthetists: Dr. A. D. Brenchley and Dr. B. A. Richmond. Nose, Throat, and Ear: Dr. J. H. Clatworthy, Mr. M. G. Dyson, and Dr. W. G. Stone. Ringworm treatment by X rays: Dr. G. B. Batten. Eye cases (Refractions): Dr. J. T. Clark. Minor Ailments: Mr. R. P. Marshall.

THE AMERICAN PELLAGRA CONFERENCE.

THE Conference of the National Association for the Study of Pellagra held in Columbia, South Carolina, on Oct. 3rd and 4th, was well attended.

The programme showed that an earnest effort had been made by the promoters to have pellagra considered from every point of view. The address of Surgeon-General BLUE on the problem of Pellagra was notable for comprehensive grasp of the subject. There was no announcement of any new, conclusive, or startling discovery of a cause of pellagra nor of a specific treatment. Until the long-mooted question of etiology is determined, no positive and final steps can be taken regarding either prevention or treatment. The papers on etiology as well as the discussions naturally fell, as of old, into two groups—the zeist and antizeist. Some of the ideas were new, but most were merely repetitions of Italian polemics on pellagra.

Dr. F. M. SANDWITH (London) raised the question whether, after all, pellagra may not be a disease due to deficiency of nutrition.

Dr. L. SAMBON (London) contributed some of the results of his last expedition into Austria, Rumania, Spain, and France, where he found much to substantiate his doctrine that pellagra is a disease of parasitic nature similar to malaria and conveyed to man through the agency of a blood-sucking insect, probably water-bred.

Dr. K. H. BEALL (Fort Worth) contributed an intelligent study of the Pellagra Mortality Tables of the Texas State Board of Health, showing the great frequency of pellagra among women and the impossibility of the simulium theory as applied to Texas, where many cases develop 50 miles from a running stream.

The papers of Professor BABES (Bucharest) and of Dr. GOSIO and Dr. ANTONINI (Italy) show that not only the Italians, but other continental writers, still find much in the Lombrosian theory of pellagra that is satisfying if not convincing. The paper by Dr. VOLPINO (Turin) and his associates on the anaphylactic reaction of pellagrins to an aqueous extract of spoiled maize which non-pellagrins do not exhibit, if corroborated by other investigators, will prove a distinct contribution to the zeist theory. Doubtless Dr. Volpino's experiments will be repeated by many American observers. If his claims are at all substantiated a great advance will have been made in our knowledge of the cause, diagnosis, and treatment of pellagra, and possibly of prevention.

Dr. E. BRAVETTA'S (Milan) denial of the presence of a specific bacillus of pellagra in the blood and spinal fluid, as has been claimed by Tizzoni and others, also refers back that mooted question to pathologists for revision.

The epidemiology, prevalence, and statistics of the disease received special attention from representatives of the Thompson-McFadden Pellagra Commission and of the United States Public Health Service. According to Dr. C. H. LAVINDER'S careful estimate there have been in the United States in the last five years about 30,000 cases of pellagra, with a mortality of 30 per cent. at least. The importance of these figures will probably be better appreciated if we apply them to some longer and better known disease like cholera, or yellow fever, or plague. If it were shown that any of these diseases had prevailed to an equal extent as has now been demonstrated for pellagra, we doubt not that governments would long ago have shown commendable activity in dealing with such health problems.

As to the parasitic nature of pellagra and its intermediary host, Mr. JENNINGS and Mr. KING, of the United States Department of Agriculture, have not found the genus simulium present in South Carolina in sufficient numbers to incriminate it as the cause of pellagra in that State, but they lean rather to the opinion that stomoxys calcitrans is the possible transmitting agent. Professor S. J. HUNTER (Kansas), on the contrary, inclines from his investigations to suspect the simulium or sand-fly; while Dr. ROBERTS (Georgia) regards the common mosquito as the most probable intermediary agent. Equally divergent are the views of Dr. DEEKS, of the Panama Canal Commission, who finds in his pellagra patients a too common use of carbohydrates, especially cane-sugar; and of Dr. G. C. MIZELL (Atlanta), who affirms that fats in the shape of semi-drying oils are the cause of the trouble. It will thus be seen that many theories as to the causation of pellagra were advanced, but no clinical or laboratory facts were adduced that would point to the real cause of the disease.

Dr. BASS (New Orleans) thought we were no nearer a solution of the etiologic problem than we were three years ago, and doubted whether it would be solved in the immediate future. The whole question of the metabolism of pellagrins seems to demand investigation by competent hands.

Dr. S. R. ROBERTS (Atlanta) sees analogies to pellagra in malaria, syphilis, and allied disorders, while others in discussing his paper saw equally striking analogies in scurvy, beri-beri, and the other diseases associated with deficient nutrition. That pellagra is an institutional disease was strikingly brought out, just as scurvy and beri-beri are so often ship diseases.

Colonel WATSON demonstrated that much maize which had been shipped into South Carolina from the West had been "spoiled" to a degree that rendered it unfit as food for either man or beast, leaving aside whether or not such maize had any relation to pellagra.

Dr. ALSBERG, of the United States Department of Agriculture, reported upon his investigations of moulds of the genus penicillium, which he found were toxic to experimental animals, and largely confirmatory of the investigations of Dr. Ceni and other Italian scientists.

An interesting focus of pellagra in the public charitable institutions of Rhode Island was reported by Dr. A. H. HARRINGTON.

There were in all 67 papers, some of which had to be read "by title" only. The attendance reached about 150, visitors coming from distant Missouri, Texas, and New England.

The following are some of the resolutions adopted by the Conference:—

That this association reiterates the belief, formerly expressed, that the ultimate cause of pellagra is unknown, but it is of the opinion that, in view of the indictment against "spoiled corn," measures should be taken by proper enactment to prevent its sale and consumption as food.

That this association expresses the conviction that no satisfying evidence has ever been submitted which shows pellagra to be directly transmitted from man to man; and that in the present state of our knowledge the association regards measures of quarantine and isolation for the disease unnecessary and unwise.

That this association is convinced that there is at present no known specific remedy for pellagra, and any claim made for the efficacy of any especial therapeutic agent must be accepted with great caution.

That this association recognises pellagra in the United States as a matter of great importance to the national public health, and notes with approval the interest of the United States Public Health Service in this subject. It is hoped the Congress of the United States may appropriate sufficient funds for the continued extension of the work.

That the work of the Thompson-McFadden Pellagra Commission is approved, and the example of its generous founders commended as worthy of emulation.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 95 largest English towns, with an aggregate population estimated at 17,639,881 persons at the middle of this year, 8926 births and 4999 deaths were registered during the week ended Saturday, Nov. 9th. The annual rate of mortality in these towns, which had been 14·2, 13·3, and 14·0 per 1000 in the three preceding weeks, rose again to 14·8 per 1000 in the week under notice. During the first six weeks of the current quarter the mean annual death-rate in these 95 towns averaged 13·7 per 1000, against 14·7 in London during the same period. The death-rates in the several towns last week ranged from 3·2 in Bournemouth, 7·4 in Southport, 7·5 in Ilford, 7·8 in Edmonton, and 7·9 in Newport (Mon.), to 20·6 in Liverpool, 20·7 in Hastings,

21·0 in Middlesbrough, 22·0 in Rochdale, and 25·2 in South Shields.

The 4999 deaths from all causes in the 95 towns were 251 in excess of the number in the previous week, and included 510 which were referred to the principal epidemic diseases, against 421 and 449 in the two preceding weeks. Of these 510 deaths, 296 resulted from measles, 82 from infantile diarrhœal diseases, 52 from diphtheria, 32 from scarlet fever, 30 from whooping-cough, and 18 from enteric fever, but not one from small-pox. The mean annual death-rate from these epidemic diseases last week was equal to 1·5 per 1000, against 1·3 in each of the three preceding weeks. The deaths attributed to measles, which had steadily increased from 67 to 224 in the six preceding weeks, further rose to 296 last week, and caused the highest annual death-rates of 2·4 in Liverpool, 2·5 in Wallasey, 2·7 in Leicester and in Birkenhead, 3·6 in Lincoln, 3.8 in West Ham and in Coventry, and 3·9 in Middlesbrough. The deaths of infants under 2 years of age referred to diarrhœa and enteritis, which had been 121, 103, and 107 in the three preceding weeks, declined to 82 last week, and included 22 in London and its suburban districts, 11 in Liverpool, 9 in Birmingham, 7 in Manchester, and 4 in Sheffield. The fatal cases of diphtheria, which had declined from 56 to 43 in the four preceding weeks, rose to 52 last week; 8 deaths were registered in London, 4 in Portsmouth, 4 in Coventry, and 3 each in Norwich, Nottingham, Liverpool, Manchester, and Bradford. The deaths attributed to scarlet fever, which had been 29, 21, and 24 in the three preceding weeks, further rose to 32 last week, which was the highest number recorded in any week of the current year; 7 deaths were recorded in Birmingham, 4 in London, 4 in Manchester, 2 in Wolverhampton, and 2 in Nottingham. The deaths referred to whooping-cough, which had been 36, 40, and 36 in the three preceding weeks, fell to 30 last week, and included 10 in London, and 2 each in Liverpool, in Wigan, and in Bolton. The fatal cases of enteric fever, which had been 22, 20, and 15 in the three preceding weeks, were 18 last week, of which number 5 were registered in Birmingham, 2 in London, and 2 in Stoke-on-Trent.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospital, which had steadily increased from 1512 to 2278 in the 11 preceding weeks, had further risen to 2349 on Saturday last; 326 new cases of this disease were admitted to these institutions during last week, against 345, 283, and 278 in the three preceding weeks. These hospitals also contained on Saturday last 897 cases of diphtheria, 630 of measles, 239 of whooping-cough, and 52 of enteric fever, but not one of small-pox. The 1252 deaths from all causes in London were 32 in excess of the number in the previous week, and were equal to an annual death-rate of 14·4 per 1000. The deaths referred to diseases of the respiratory system, which had been 326, 240, and 274 in the three preceding weeks, declined to 227 last week, but were 31 in excess of the number recorded in the corresponding week of last year.

Of the 4999 deaths from all causes in the 95 towns last week, 185 resulted from different forms of violence, and 411 were the subject of coroners' inquests. The causes of 48, or 1·0 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified last week in Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Nottingham, Portsmouth, and in 64 other smaller towns. The 48 uncertified causes of death included 6 in Birmingham, in Liverpool, and in Gateshead. 3 in Manchester, and 2 each in Bootle, Bury, Burnley, Barrow-in-Furness, Sheffield, Darlington, and Tynemouth.

HEALTH OF SCOTCH TOWNS.

In the 18 largest Scotch towns, with an aggregate population estimated at 2,182,400 persons at the middle of this year, 1065 births and 646 deaths were registered during the week ending Saturday, Nov. 9th. The annual rate of mortality in these towns, which had been 13·6, 14·4, and 16·1 per 1000 in the three preceding weeks, declined to 15·4 per 1000 in the week under notice. During the first six weeks of the current quarter the mean annual death-rate in these Scotch towns averaged 14·3 per 1000, against 13·7 in the 95 large English towns during the same period. Among the several Scotch towns the death-rates last week ranged from 6·3 in Motherwell, 8·4 in Partick, and 10·7 in Falkirk, to 18·0 in Kilmarnoch, 19·3 in Dundee, and 23·3 in Kirkcaldy.

The 646 deaths from all causes were 29 fewer than the number in the previous week, and included 43 which were referred to the principal epidemic diseases, against 43 and 47 in the two preceding weeks. Of these 43 deaths, 12 resulted from infantile diarrhœal diseases, 8 from whooping-cough, 8 from diphtheria, 5 from enteric fever, 4 from measles, 4 from scarlet fever, and 2 from small-pox. These 43 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·0 per 1000, against 1·5 per 1000 in the 95 large English towns. The deaths of infants under two years of age attributed to diarrhœa and enteritis, which had been 10, 16, and 16 in the three preceding weeks, fell to 12 last week, and included 3 in Glasgow, 3 in Dundee, 2 in Edinburgh, and 2 in Govan. The deaths referred to whooping-cough, which had been 6, 8, and 14 in the three preceding weeks, declined to 8 last week; 2 deaths were recorded in Glasgow and 2 in Leith. The fatal cases of diphtheria, which had been 11, 12, and 9 in the three preceding weeks, were 8 last week, and included 2 in Glasgow. The 5 deaths attributed to enteric fever were the highest number recorded in any week of the current year, and comprised 3 in Aberdeen, 1 in Dundee, and 1 in Motherwell. Of the 4 deaths referred to measles last week 3 occurred in Glasgow and 1 in Perth. The 4 fatal cases of scarlet fever were equal to the average in the three preceding weeks; the 2 deaths from small-pox were registred in Kirkcaldy.

The deaths referred to diseases of the respiratory system in the 18 Scotch towns, which had steadily increased from 62 to 139 in the five preceding weeks, declined to 127 in the week under notice; 24 deaths were attributed to different forms of violence, against 29 and 35 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 22 town districts of Ireland, having an aggregate population estimated at 1,154,150 persons at the middle of this year, 569 births and 396 deaths were registered during the week ending Saturday, Nov. 9th. The annual rate of mortality in these towns, which had increased from 16·5 to 18·3 in the three preceding weeks, declined to 17·9 per 1000 in the week under notice. During the first six weeks of the current quarter the mean annual death-rate in these Irish towns averaged 17·3 per 1000; in the 95 large English towns the corresponding death-rate did not exceed 13·7, while in the 18 Scotch towns it was equal to 14·3 per 1000. The annual death-rate in the several towns last week was equal to 18·0 in Dublin (against 14·4 in London), 16·8 in Belfast, 15·6 in Cork, 16·6 in Londonderry, 28·4 in Limerick, and 13·3 in Waterford, while in the remaining 16 smaller towns the mean rate was 19·9 per 1000.

The 396 deaths from all causes in the 22 Irish towns were 10 fewer than the number in the previous week, and included 39, which were referred to the principal epidemic diseases, against 39 and 65 in the two preceding weeks. Of these 39 deaths, 23 resulted from measles, 6 from diphtheria, 5 from diarrhœal diseases, 2 from scarlet fever, 2 from whooping-cough, and 1 from enteric fever, but not one from small-pox. These 39 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·8 per 1000; the death-rate from these diseases last week in the 95 large English towns was equal to 1·5, while in the 18 Scotch towns it did not exceed 1·0 per 1000. The deaths attributed to measles, which had been 20, 19, and 36 in the three preceding weeks, declined to 23 last week, and comprised 14 in Limerick, 8 in Belfast, and 1 in Dublin. The deaths referred to diphtheria, which had been 2, 4, and 4 in the three preceding weeks, rose to 6 last week, and included 4 in Dublin. The fatal cases of diarrhœa and enteritis, which had been 14, 5, and 14 in the three preceding weeks, declined to 5 last week, all of which were registered in Dublin and related to infants under two years of age. The 2 deaths attributed to scarlet fever occurred in Belfast; the 2 deaths referred to whooping-cough in Ballymena; and the fatal case of enteric fever in Dublin.

The deaths referred to diseases of the respiratory system, which had been 76, 78, and 74 in the three preceding

weeks, rose to 93 in the week under notice. Of the 396 deaths from all causes, 138, or 35 per cent., occurred in public institutions, and 7 resulted from different forms of violence. The causes of 7, or 1·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 95 large English towns the proportion of uncertified causes of death last week did not exceed 1·0 per cent.

THE SERVICES

Royal Navy Medical Service.

In accordance with the provisions of Order in Council of August 11th, 1903, Surgeon Samuel Leslie McBean has been allowed to withdraw from His Majesty's Naval Service with a gratuity (dated Nov. 4th, 1912).

In accordance with the provisions of Order in Council of April 1st, 1881, Fleet-Surgeon Hubert Holyoake has been placed on the Retired List at his own request (dated Nov. 9th, 1912).

The following appointments have been notified:—Fleet-Surgeons: M. H. Knapp to the *President*, additional, to be lent to Greenwich Hospital School and College, temporarily; R. D. Jameson to the *Indus*; and C. H. Rock to the *Achilles*. Staff-Surgeon: T. H. Vickers to the *Blanche*, on recommissioning.

The undermentioned Acting Surgeons have been confirmed in the rank of Surgeon in His Majesty's Fleet:—Richard Mortimer Rowland Thursfield, Lovel Moss, Joseph Aloysius O'Flynn, James Percy Shorten, Alfred Rees Price, Gordon Victor Hobbs, Francis John Despard Twigg, Gordon Ernest Dormer Ellis, and Francis James Burke (dated April 3rd, 1912).

The undermentioned Staff-Surgeons have been promoted to the rank of Fleet-Surgeon in His Majesty's Fleet:—Arthur Richard Harrie Skey, Percival Kent Nix, Edwyn Robert Grazebrook, Richard Weld Stanistreet, Louis Edward Dartnell, Frank Hutton Nimmo, William Jackson, and George Gibson (dated Nov. 10th, 1912).

Royal Naval Volunteer Reserve.

Surgeon William Betenson Betenson to be Staff-Surgeon (dated Nov. 4th, 1912).

Army Medical Service.

Colonel Robert I. D. Hackett is placed on retired pay (dated Nov. 13th, 1912). Brevet Colonel Robert H. Firth, from the Royal Army Medical Corps, to be Colonel, vice R. I. D. Hackett (dated Nov. 13th, 1912).

Royal Army Medical Corps.

Major Henry P. Johnson retires on retired pay (dated Nov. 9th, 1912).

Major George A. T. Bray to be Lieutenant-Colonel, vice R. H. Firth (dated Nov. 13th, 1912).

Colonel R. Porter, Deputy Director of Medical Services at Malta, has arrived home on leave of absence.

Lieutenant-Colonel W. W. O. Beveridge, D.S.O., specialist sanitary officer and medical officer in charge of Kensington Barracks, has been selected for appointment as Professor of Military Hygiene at the Royal Army Medical College, Millbank, S.W., in succession to Brevet-Colonel C. H. Melville, whose tenure of the appointment has expired. Lieutenant-Colonel T. Daly has arrived home for duty from India, tour expired. Lieutenant-Colonel A. E. Burnside has been transferred from Bellary Cantonment to Bangalore and placed in charge of the Section Hospital. Lieutenant-Colonel R. J. Copeland, on return to duty from sick leave, has been appointed for duty to Newcastle-on-Tyne. Lieutenant-Colonel H. J. Fletcher has been transferred from Sialkot to Abbotabad. Lieutenant-Colonel E. M. Hassard, commanding the Station Hospital at Lahore, has been appointed to command the Station Hospital at Karachi Cantonment. Lieutenant-Colonel F. S. Le Quesne, V.C., lately in charge of the Auxiliary Hospital at Woolwich, has taken up charge of the Military Hospital at Gravesend.

Major L. Humphry has been selected for appointment as Specialist in Operative Surgery at the Military Hospital, Chatham. Major G. B. Riddick, staff surgeon at Maymyo, has arrived home for duty from Burma. Major H. H. Norman, on the expiration of his leave of absence home from India, has been appointed to the Eastern Command. Major W. S. Crosthwait, serving at the Military Hospital, Fermoy, has been placed under orders to embark for a tour of service in India. Major S. de C. O'Grady, on return from Cairo, has been appointed to the London District for duty. Major J. G. Gill has been selected for appointment as Specialist in Radiography and Electrical Science to the Burma Division, in succession to Major G. B. Riddick. Major J. Hennessy has been placed under orders for service in India. Major H. K. Palmer has joined the Military Hospital at Ambala Cantonment for duty. Major E. Brodribb has been transferred from the Military Hospital at Hythe to Shorncliffe. Major T. H. M. Clarke, C.M.G., D.S.O., lately medical inspector of recruits in the Southern Command, has taken up duty as Medical Officer at the Royal Hibernian School, Dublin. Major P. H. Collingwood has been transferred from the Military Hospital at Devonport to Tregantle. Major E. P. Connolly has been appointed to hold charge of the Military Hospital at Kuldana, Murree Hill District. Major M. P. Corkery has taken over charge of the Brigade Bacteriological Research Laboratory at Naserabad, on transfer from Mount Abu. Major G. G. Delap, D.S.O., has taken up the appointment of Deputy Assistant Director of Medical Services, South Africa, at Army Headquarters, Pretoria. Major H. Ensor, D.S.O., has been selected for appointment as Registrar and Secretary at the Royal Herbert Hospital, Woolwich. Major A. H. O. Young has been appointed to the Third (Lahore) Division of the Northern Army in India. Major F. E. Gunter has been selected for appointment as Specialist in Advanced Operative Surgery to the Seventh (Meerut) Division. Major L. M. Purser has arrived home on five months' leave of absence from India.

Captain E. M. O'Neill, on completion of a tour of service in India, has been ordered to join the Irish Command for duty on Nov. 23rd, and on arrival will be posted to the Cork District. Captain F. M. M. Ommanney has been appointed to the Eastern Command. Captain R. J. B. Buchanan has been transferred from the Military Hospital at Tidworth, Salisbury Plain, to the Royal Victoria Hospital, Netley. Captain M. B. H. Ritchie has taken up duty at the Military Hospital, Campbellpore, on transfer from Rawal Pindi Cantonment. Captain J. B. G. Mulligan has arrived home for duty from Malta. Captain W. C. Smales, on termination of his leave of absence from India, has been transferred to the Home Establishment. Captain A. N. Fraser has embarked for a tour of service as Specialist Sanitary Officer in Singapore. Captain P. Farrant has been transferred from the Military Hospital at Tidworth, Salisbury Plain, to Topsham. Captain A. D. Fraser has taken up duty at Magilligan on transfer from the Military Hospital at Londonderry. Captain W. D. C. Kelly, specialist in operative surgery at the Royal Infirmary, Phœnix Park, Dublin, has been placed under orders to embark for a tour of service in the South African Command. Captain A. Fortescue has been transferred from the Military Hospital at Cawnpore to Benares Cantonment. Captain F. J. Stuart has taken up duty at the Military Hospital, Chakrata, Mussooree Hill District, on transfer from Meerut Cantonment. Captain A. W. Gibson and Captain W. H. S. Burney have embarked for a tour of service in India; the former has been appointed to the Fourth (Quetta) Division, vice Major S. F. St. D. Green (with whom an exchange on the roster for service abroad was approved), and the latter to the Second (Rawal Pindi) Division. Captain C. R. M. Morris, at present serving at Sialkot, has been appointed for duty on board the transport s.s. *Dufferin*, leaving Bombay for Southampton on Nov. 21st. Captain N. E. J. Harding has arrived home on leave of absence from the Sierra Leone Protectorate, West Africa. Captain G. W. Heron has joined the Public Health Department in Egypt. Captain J. C. L. Hingston has been appointed Medical Officer to the cordite factory at Wellington, Madras Presidency. Captain B. H. V. Dunbar has taken up duty as Company Officer, No. 15 Company Royal Army Medical Corps, Belfast. Captain J. R. Foster has been appointed to hold Medical Charge of the Followers Hospital at Neemuch Cantonment. Captain T. S. Eves has been transferred from the Eighth (Lucknow) Division to the Allahabad Brigade. Captain T. B. Nicholls has taken up duty at the Military Hospital at Khartoum on transfer from Cairo.

Lieutenant C. D. Seaver, at present serving at the Military Hospital, Curragh Camp, has been placed under

orders to embark for a tour of service in India. Lieutenant B. H. H. Spence has been transferred from the Eastern Command to the Royal Army Medical College, Millbank, S.W. Lieutenant A. S. Cane has embarked for a tour of service in India. Lieutenant L. F. K. Way has been transferred from the Military Hospital at Hilsea to Tidworth, Salisbury Plain. Lieutenant T. A. Weston has been appointed to Aldershot. Lieutenant R. Gale has taken up duty under the Public Health Department in Egypt.

Indian Medical Service.

Surgeon-General W. B. Bannerman, C.S.I., surgeon-general with the Government of the Madras Presidency, has been granted four months' combined leave of absence out of India.

Colonel D. St. J. D. Grant has been selected for appointment as Assistant Director of Medical Services to the Karachi Brigade of the Fourth (Quetta) Division, in succession to Colonel R. B. Roe, transferred to the Sirhind and Jullundur Brigades. The services of Colonel J. Smyth have been placed temporarily at the disposal of the Government of the Madras Presidency.

Lieutenant-Colonel P. J. Lumsden has been appointed an Agency Surgeon of the First Class under the Foreign Department of the Government of India. Lieutenant-Colonel T. E. Dyson has been allowed an extension of furlough.

Major E. S. Peck has arrived home on leave of absence from India. Major S. H. Burnett, on return from leave of absence, has been appointed Presidency Surgeon, Second District, Bombay. Major H. J. Walton, on completion of special duty at the Central Research Institute at Kasauli, has joined at Saharanpur. Major C. M. Matthew, medical officer 92nd Regiment of Punjabis, has been appointed to officiate as Medical Storekeeper to Governm nt at Calcutta, in succession to Major W. D. Hayward. Major G. Hutcheson, civil surgeon at Aligarh, has been granted privilege leave of absence for one month. Major R. H. Maddox, civil surgeon of Gaya, has been appointed a Civil Surgeon of the First Class. The services of Major A. W. R. Cochrane, superintendent of the Lunatic Asylum at Agra, have been placed at the disposal of the Memorial Fund Committee for employment as Superintendent of the King Edward VII. Memorial Sanatorium for Consumptives at Bhowali. Major C. H. Watson has arrived home on leave of absence from India. Major G. T. Birdwood, civil surgeon of Lucknow, has taken over medical charge of the Rae Bareli District during the absence of Captain A. Cameron.

Captain E. B. Munro has been selected for appointment as Substantive Medical Officer to the 89th Regiment of Punjabis. The services of Captain W. J. Collinson have been temporarily placed at the disposal of the Government of the United Provinces of Agra and Oudh for employment on plague duty in the Meerut District, vice Captain E. Bisset. Captain C. E. Palmer, officiating superintendent of the Central Prison at Benares, has been granted three months' privilege leave of absence. Captain H. B. Steen, officiating first resident surgeon at the Presidency General Hospital, Calcutta, has been appointed *sub. pro tem.* in that appointment. Captain C. L. Dunn, Deputy Sanitary Commissioner in the Second Circle of the United Provinces of Agra and Oudh, has been deputed to Amritsar in connexion with the prevention of malarial fevers. Captain D. D. Kornat has taken over the substantive medical charge of the 8th Regiment of Rajputs. Captain R. T. Wells, plague medical officer at Jullundur, has been granted six months' leave of absence. The transfer of Captain W. D. Ritchie from Dhubri to Sibsagar has been cancelled. The services of Captain A. N. Dickson have been replaced at the disposal of H.E. the Commander-in-Chief in India by the Home Department.

Lieutenant H. E. Shortt, medical officer of the 62nd Regiment of Punjabis, has been deputed to Delhi for a course of instruction in connexion with the prevention of malarial fevers. Lieutenant V. P. Norman has received an extension of three months' leave of absence from India on medical certificate.

Special Reserve of Officers.

Royal Army Medical Corps.

The undermentioned to be Lieutenants (on probation):—Malcolmson Knox Nelson (dated Oct. 15th, 1912). Cadet Colour-Sergeant Samuel Wright, from the Belfast University Contingent, Officers Training Corps (dated Oct. 17th, 1912). Cadet Colour-Sergeant Frederick Jefferson, from the Belfast University Contingent, Officers Training Corps (dated Oct. 17th, 1912). Robert Dunlop Goldie (dated Oct. 17th, 1912).

Territorial Force.

Royal Army Medical Corps.

2nd Wessex Field Ambulance, Royal Army Medical Corps: Lieutenant William Blackwood to be Captain (dated July 31st, 1912).

5th Southern General Hospital, Royal Army Medical Corps: Captain John W. G. Kealy resigns his commission (dated Nov. 13th, 1912).

Attached to Units other than Medical Units.—Lieutenant Alfred Coleridge to be Captain (dated Sept. 23rd, 1912). James Fenton to be Lieutenant (dated Sept. 26th, 1912). Lieutenant Clarence I. Ellis to be Captain (dated Sept. 30th, 1912). Theophilus William Morcom Harneis to be Lieutenant (dated Oct. 17th, 1912). Lieutenant James P. Wilson resigns his commission (dated Nov. 13th, 1912).

Deaths in the Services.

Surgeon-General Alexander Morison Dallas, C.I.E., at his residence, Ealing, in his eighty-third year. He entered the Indian Medical Service (Bengal) in 1856, and was appointed superintendent of the Central Jail in 1859, Inspector-General of Prisons in 1863, and Inspector-General of Civil Hospitals in 1885. He received the Companionship of the Indian Empire in 1886.

Staff Tour for Medical Officers.

A Southern Command Staff Tour for Royal Army Medical officers was held in the vicinity of Exeter from Nov. 11th to 14th, under the direction of Surgeon-General J. G. MacNeece, C.B., Deputy Director of Medical Services to the Southern Command.

The Journal of the Royal Army Medical Corps.

The opening article in the *Royal Army Medical Corps Journal* for November is an original communication by Lieutenant-Colonel C. Birt, in which he reviews past epidemics of typhus fever in the light of recent research, pointing to the body-louse as the agent which disseminates the virus, the writer's conclusions being that the prevention of typhus fever is summed up in the destruction of pediculi. Forty years ago, he says, the prophylactic measures taught by experience ensured this. A paper by Major H. C. R. Hime on Simple Trephining for Increase of Intraocular Tension (the operation of Lieutenant-Colonel R. H. Elliot, I.M.S.) will be read with interest, as will also Major H. Herricks's account of antimalarial measures undertaken during the year 1911 at Hyderabad, Sind; and Colonel Guy Carleton Jones's article on the Sanitary Aspect of a Besieged Town. Colonel Jones is the Director-General of the Medical Services of the Militia of Canada. Officers of the Territorial Force will find much helpful information in the paper on Advanced Dressing Stations and Dressing Stations in their Relation to the Personnel and Impedimenta of a Field Ambulance, by Major W. M. H. Spiller; in the illustrated description of a canal barge adapted for the transport of wounded; and in the note on a Method of Teaching Camp Sanitation. Surgeon-General J. H. Evatt's reprint of his pamphlet concerning the Army Medical Department, written in 1875, a fourth edition of which appeared in 1883, will be useful, as he says, to students of organisation. A pharmaceutical catalogue, a newspaper paragraph, and a verse from Scripture have suggested to Colonel R. H. Firth some speculations as to the origin and nature of life and the final end of all things, and in Some Musings of an Idle Man he gives some of the results of his contemplations during railway journeying in India. The apology with which he introduces these musings is needlessly modest; they make delightful and profitable reading, and we eagerly await further instalments.

The Annual Dinner of the Royal Navy Medical Club.

This dinner was held at the Princes Restaurant, Piccadilly, on Nov. 9th, and though not the first dinner of the Royal Navy medical officers, was the first held under the auspices of the newly formed club. A very enjoyable evening was spent, which gave the large number of members who attended an opportunity of renewing old friendships and forming new ones. The President on this occasion was Surgeon-General Sir James Porter, K.C.B., Medical Director-General of the Navy, who in the course of his speech, after alluding to the

advance made of late years by medical officers in their work and profession, referred in feeling terms of the loss sustained by the navy through the recent deaths of Sir Herbert M. Ellis, K.C.B., and Deputy Surgeon-General T. J. Crowley. Between the toasts Mdlle. Anna Gröndal contributed greatly to the enjoyment of the evening by her delightful singing. The success of this meeting of the club warrants the hope, and indeed the expectation, that its popularity in future years will be well maintained. The following members were present:—Surgeon-Generals: Sir James Porter, K.C.B. (Medical Director-General of the Navy), Sir T. D. Gimlette, K.C.B., A. W. May, C.B., Alex. J. J. Johnston, and C. Pearson (retired). Deputy Surgeon-Generals: J. J. Dennis, J. Lawrence Smith, M.V.O., George Welch (Deputy Director-General of Medical Department), A. G. Wildey, F. J. Lilly, and W. W. Pryn. Deputy Inspector-Generals: J. D. Henwood (retired), J. McC. Martin, D.S.O. (retired), and Theo. J. Preston (retired). Fleet-Surgeons: L. E Dartnell, R. F. Yeo, A. Gaskell, J. Menary, W. L. Martin, A. R. Bankhart, C.V.O., J. D. P. McNabb, A. E. Weightman, C. J. Mansfield, M. L. B. Rodd, J. H. Pead, E. C. Lomas, A. W. B. Livesay, P. W. Bassett Smith, A. Kidd, W. H. Pope, W. R. Center, J. Moore, E. J. Finch, H. Spicer, M. H. Knapp, R. A. Fitch, H. W. Gordon Green, J. W. Philip, J. F. Hall, F. Fedarb, H. F. Iliewitz, J. J. Walsh, W. G. Axford, R. H. Browne, J. C. F. Whicher (retired). R. Hill, F. H. Nimmo, R. D. Jameson, and Alex. F. Harper. Staff-Surgeons: Robert Hughes, Henry Hunt, R. W. G. Stewart, W. K. Hopkins, C. B. Fairbank, H. L. Geoghegan, A. F. Fleming, G. E. Macleod, John Martin, D. V. Lowndes, and C. A. G. Phipps. Surgeons: G. B. Scott, A. G. V. French, G. W. M. Custance, and G. P. Adshead.

Correspondence.

"Audi alteram partem."

THE HISTOLOGY OF EXPERIMENTAL RHEUMATISM.

To the Editor of THE LANCET.

SIR,—In a paper on the Histology of Experimental Rheumatism by Dr. Carey Coombs, Dr. R. Miller, and Dr. E. H. Kettle in your issue of Nov. 2nd, p. 1209, wherein it is claimed that the microscopic lesions of acute articular rheumatism are reproduced in the rabbit by injection of streptococci recovered from human cases of this disease, the writers remark that "the cultural classifications of streptococci upon which is based the statement that the rheumatic streptococci are not different from various other types have, it is true, been proved unsound," and in support of this statement they refer to the work of Ainley Walker and of Beattie and Yates.

As the cultural classificatton in question is clearly that introduced by me some years since for the purpose of differentiating streptococci; as this method has been confirmed by others; has stood the test of over eight years' continuous practical application in hospital laboratory work; and has proved over and over again of great practical value in identifying streptococci of one or another sort, I venture to give this statement of Dr. Coombs, Dr. Miller, and Dr. Kettle an emphatic denial. The work of Ainley Walker and Beattie has consisted in an attempt to wreck the tests by showing that streptococci vary to them in artificial environment. I have criticised Ainley Walker's work elsewhere, largely on the ground of technique, and from the discussion at the recent meeting of the British Medical Association at Manchester I gather that the work of Beattie and Yates on this subject is also not above suspicion on the same ground. In any case, variation is notoriously a feature of many pathogenic bacteria in regard to virulence, and variation in biochemical capacity has been found of late to be a feature of bacteria other than streptococci. It is, of course, this feature of variation and adaptation that has enabled such bacteria to survive in the struggle for existence. The method of identifying streptococci by taking note of those differences in cultural and biochemical behaviour which they constantly exhibit when freshly recovered from the human body, I not only maintain to be as useful to-day as it was eight years ago, but, in view of the numerous streptococci that have been satisfactorily identified by the method by various workers since, I regard its value as established.

I maintain, further, that the success of the method has been demonstrated in a striking manner in cases of the "rheumococcus" itself. Blood cultures from cases of acute articular rheumatism—the rheumatism that yields to salicylates—are unfortunately negative, but from cases of malignant endocarditis streptococci are recovered in a very large proportion of cases, and, as has been shown by Horder by application of the tests in question, the streptococci are quite distinct from S. pyogenes, and are indistinguishable from S. salivarius or S. fæcalis, as the case may be, of the normal alimentary tract. In order to take the matter further, and to asertain if this identity admitted of further proof, Horder injected examples of S salivarius and of S. fæcalis isolated from the normal human alimentary tract into rabbits intravenously, and found that in either case the rabbits developed malignant endocarditis.

This evidence is, I venture to submit, conclusive proof of the value of the tests for identifying the streptococci found in such cases, and if Dr. Coombs, Dr. Miller, and Dr. Kettle will do the control experiment of injecting streptococci from the normal alimentary tract into rabbits, and will study the resulting lesions histologically in the same able and careful manner as they have done in the case of the rheumococcus, I shall be surprised if they do not find lesions similar to those obtained by them with the rheumococcus. And surely this view, so far from proving unacceptable to those who regard the rheumococcus as the essential agent of rheumatism, should prove acceptable to them; for what could be a more reasonable view of rheumatism than that it is an auto-intoxication or an auto-infection by streptococci of the normal alimentary tract, induced by such conditions as damp, exposure, fatigue, or other predisposing cause unfavourable to what is perhaps the most important factor of all in regard to health—namely, "the general resistance"?—I am, Sir, yours faithfully,

Nov. 10th, 1912. M. H. GORDON.

THE VALUE OF HEDONAL.

To the Editor of THE LANCET.

SIR,—At a meeting of the Section of Anæsthetics of the Royal Society of Medicine, reported in THE LANCET of Nov. 9th, it was stated that "the virtues of a new anæsthetic were apt to be over-estimated; one heard of the successes, but little of the deaths." I would submit that to break down the customary pessimism of the profession with regard to a new method nothing avails but an overweening optimism. Further, with regard to hedonal, nobody who has read the reports and letters on its use published since last Easter can deny that they are characterised by an extreme candour.

While the statistics of ether and chloroform deaths are notoriously unreliable, those of hedonal bid fair to give the truth. It must be remembered that the mortality due to an anæsthetic may represent deaths on the table due to the anæsthetic, or these *plus* deaths due to late chloroform poisoning and ether pneumonia. That the latter mortality is not really known is due to the great difficulty found in determining the chief cause of death and also to an attitude of mind that may be fairly described as a resigned but unscientific stoicism. Now, so far, no death has, I think, occurred on the table under hedonal, and practically all the deaths have been published. With regard to "rumours of unreported fatal cases," two of my own were reported to me as deaths from hedonal by a visitor to the hospital. One was due to a pelvic sarcoma which had caused obstruction for three weeks before operation; the other death occurred in a woman suffering from cerebral softening, from aneurysm in the right internal capsule causing hemiplegia, from aortic disease, and from long-standing infarcts in kidneys, spleen, and lungs.

With regard to the deaths reported by Dr. G. A. H. Barton and by Dr. Z. Mennell, I would refer those interested to the letter on a similar case published in THE LANCET of June 8th. At a meeting of the Medical Society of London Mr. C. M. Page is reported by you to have considered hedonal unsuitable for the aged. In a much smaller experience I have found it very useful for old people. Although it must be given very

cautiously, yet the small amount required, the absence of strain during induction, and of post-operative vomiting or pain, make hedonal, to my mind, decidedly the safest and best anæsthetic for aged patients. The only troublesome case I have had has been one in which acute œdema developed in a healthy boy of 17 after the administration of 1250 c.c. of 0·75 per cent. hedonal, whereas none of my cases who were over 45 and up to 78 years of age have given me any anxiety after leaving the table. This is due entirely, I think, to the fact that they did not require more than, as a rule, 1200 c.c., and also that this amount of fluid did them good rather than harm. Dr. Mennell's remark on the rapidity of the pulse applies only, I presume, to intracranial cases. The pulse in other cases is not rapid except during induction. With regard to Mr. J. F. Dobson's report, undoubtedly local thrombosis must occur after the retention of a cannula in the vein and subsequent ligation, but why the clot should become dislodged unless sepsis occurs I do not understand. I have never yet seen an infarct occur after the removal of varicose veins, and why it should happen after an intravenous infusion properly performed is not obvious. In conclusion, I regard hedonal as contra-indicated in the young and vigorous for bloodless operations and in mouth and air sinus operations without previous laryngotomy, and, on the other hand, as the best anæsthetic for head cases and for the aged and cachectic.

I am, Sir, yours faithfully,

H. DE L. CRAWFORD, B.Ch. Dub., F.R.C.S. Irel.

Dublin, Nov. 9th, 1912.

THE BELL-MAGENDIE QUESTION.

To the Editor of THE LANCET.

SIR,—The facts that I have given in my letter in THE LANCET of Oct. 12th are much more relevant to the point at issue than Professor Waller's abuse of Bell and introduction of quotations from Bell which, without bearing on the subject, are calculated greatly to prejudice physiologists against Bell. I showed that Bell's merits as a physiologist have even been undervalued, and that Professor Waller's opinion of Bell's epoch-making work as of a "very little scientific value" is not shared by others who are thoroughly qualified to form an opinion. Professor Waller seems to think that Professor Keith and I have retreated from our positions. This is not the case with either of us; the more carefully I investigate the subject the more clearly I recognise how justified were Bell's contemporaries in the conclusion at which they arrived. In my first article I set out to prove that Professor Waller was not justified in his opinion that Bell should be deprived of all credit in the discovery of motor and sensory nerve channels. In this letter I am going very much further; in my opinion the attempt to deprive Bell of his discovery because he did not consider every detail of his opinion finally proved is like trying to take away the discovery of the circulation of the blood from Harvey because he did not describe the capillaries. It is most improbable that Bell would claim to have taught what his pupils knew that he had not taught, and the evidence that I have given from Shaw's papers shows that this is not the case. Let me summarise the position:—

1. Bell was the author of the fundamental scheme that the function of a nerve depended on its origin from the brain. 2. That the fibres of each nerve were distinct throughout their course. 3. That a separate nerve was required for each distinct function. 4. That these nerve fibres might be combined in one nerve, but they were anatomically distinct. 5. Bell was the first to make the experiment of dividing the nerve roots in order to ascertain their respective functions. 6. He found that the two roots had different functions. 7. He found that the anterior roots were motor and the posterior roots non-motor. 8. He held the opinion that the anterior roots were motor and the posterior roots were sensory, but did not consider that he had finally settled the point with regard to the sensory nerves. 9. He found that the facial was a motor nerve and had only one function. 10. Numerous other observers, including Magendie, followed Bell in making experiments upon the nerves.

It will be seen from this summary that at least nine-tenths of the discovery should be attributed to Bell; and that Magendie greatly stultified his share by stating that the anterior roots were not all motor and the posterior roots were not all sensory. This he did immediately after the publication of his first experiment.

I am, Sir, yours faithfully,

Nov. 4th, 1912. F. W. EDRIDGE-GREEN.

*** This correspondence can only be continued if new facts are forthcoming.—ED. L.

THE FLANNELETTE QUESTION.

To the Editor of THE LANCET.

SIR,—I have seen Dr. L. A. Parry's letter in THE LANCET of Nov. 2nd. It contains two points which I trust you will give me space to answer.

Dr. Parry complains, firstly, that a quotation from his evidence before the Home Office Committee is given in a Nonflam advertisement. This is the first occasion when I have seen it suggested that one should not quote from a Blue-book. A Blue-book is national property. And Dr. Parry does not contend that the quotation is incorrect or in any way mutilated. The second part of the letter contains Dr. Parry's views on Nonflam as he presented them to the Home Office Committee. With these I am not concerned. They are out of date—superseded by the best scientific, Government, and trade evidence. The Home Office Committee took careful note of Dr. Parry's views, so much so that the points he raised were referred to Sir T. E. Thorpe, who made a series of tests with Nonflam in the Government laboratories.

Sir T. E. Thorpe's report on those tests—published in the Blue-book—discounts Dr. Parry's statements to *nil*. Nonflam survived the tests of the British Fire Prevention Committee and justified all that has been claimed for it after 20 washings; it received the approval of the Home Office Committee, even after Dr. Parry had given evidence; it emerged successfully from THE LANCET tests; it was commended by Sir William Ramsay, Professor Sims Woodhead, Professor Pope, Dr. Kelynack, and Dr. J. C. Caine; finally, last week in open competition Nonflam won the *Daily Express* £50 prize as being the most flame-resisting flannelette fabric. I suggest that if Dr. Parry still feels keenly on this matter he should promote a petition to the Government asking for a standard of safety for human clothing. If he will do this I will promise him my firm's signature and support.

I am, Sir, yours faithfully,

R. C. CRAVEN.

Dr. Perkin's Nonflam, 3, Piccadilly, Manchester, Nov. 6th, 1912.

*** The reference to THE LANCET tests is correct; but the question remains whether proofing with mineral salts, which are retained by the material, does not appreciably reduce the non-conducting properties to which warmth in wearing is due.—ED. L.

THE ROYAL SOCIETY OF MEDICINE AND THE SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

To the Editor of THE LANCET.

SIR,—Considerable misconception as to the relations existing between the Royal Society of Medicine and the Society of Tropical Medicine and Hygiene appears to have originated as a result of some recent negotiations. For various reasons the council of the latter society has decided that amalgamation is at present impracticable, and that, in the meantime, the Society of Tropical Medicine and Hygiene must continue to exist as an independent body; but workers in tropical medicine all over the world fully recognise—none more readily—the services which the Royal Society of Medicine has rendered to the profession, and the advantages which accrue from access to its magnificent library, to its wealth of current Continental, American, and British literature, and to the help in research which is so readily rendered by an exceptionally qualified staff of librarians. Further, the desire of the Royal Society of Medicine to represent and embody in its constitution every branch of medicine has their natural sympathy, and when it can be shown that there is scope and opportunity for a Section of Tropical Medicine their support will doubtless be freely accorded.

Fricton or inharmonious rivalry between the societies is inconceivable.—I am, Sir, yours faithfully,

London, N.W., Nov. 11th, 1912. W. CARNEGIE BROWN.

THE USE OF ERGOT IN CHOREA.

To the Editor of THE LANCET.

SIR,—I see in the issue of THE LANCET of Nov. 2nd a letter from Lieutenant-Colonel J. Rocheid Forrest in which he refers to a statement of mine in favour of the treatment of chorea by ergot of rye. Lieutenant-Colonel Forrest seems to think that I am desirous of claiming originality for the use of the drug in that complaint, and implies that any credit to be derived from its first introduction rightly belongs to himself. Let me assure Lieutenant-Colonel Forrest that I have no wish to claim originality in the matter. The use of ergot in the treatment of diseases of the nervous system is of long standing. I became acquainted with it first in the early "seventies"; and it was a recognised remedy for the treatment of epilepsy in 1881, as a reference to Dr. J. C. Rogers's paper in the *New York Medical Record* of Oct. 27th, 1881, will show. If Lieutenant-Colonel Forrest will turn to my paper in the *British Medical Journal* of July 18th, 1903, he will see that the object of that communication was not to announce the use of ergot in chorea as anything in the way of a novelty, but to urge the importance of giving the drug in substantial dose if any good result is to be obtained. In small doses, such as Lieutenant-Colonel Forrest recommends, the drug has failed in my hands to produce any appreciable effect.

I am, Sir, yours faithfully,

London, Nov. 9th, 1912. EUSTACE SMITH.

A CORRECTION.

To the Editor of THE LANCET.

SIR,—My attention has been drawn to an advertisement in to-day's issue of THE LANCET, inserted by the Prudential Assurance Co., and announcing my appointment to the post of "Resident Medical Officer" to that company. May I point out that this description is an error? The post in question is that of *Permanent* Medical Officer, not *Resident* Medical Officer. I am, Sir, yours faithfully,

Nov. 8th, 1912. OTTO MAY.

*** We published the advertisement as we received it, but regret that the obvious error in its wording did not attract our attention.—ED. L.

THE MEDICAL PROFESSION AND THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—The National Medical Union is a temporary emergency organisation which was formed towards the end of last year as a direct outcome of the mass meetings held in Manchester, and attended by doctors from all parts of the country. Its object was to strengthen the hands of the British Medical Association in its insistence that the "cardinal points" must be securely guaranteed before the profession could work the National Insurance Act. That these demands have not yet been conceded is common knowledge, and the enclosed "criticism" of the Regulations issued by the Insurance Commissioners shows exactly how the profession stands to-day.

At a general meeting of the Union held on Oct. 30th the matter was considered so important, and the "criticism" such a valuable contribution in the present crisis, that the meeting decided to send a copy to every medical man in Great Britain. Realising the great cost this would entail a special fund for the purpose was started in the meeting, and £70 were subscribed towards the amount required. The meeting also passed the following resolutions:—

That, in the opinion of the members of the National Medical Union assembled in general meeting, the medical profession should refuse any financial offer under the National Insurance Act until the conditions of service are made compatible with the best interests and honourable position of the profession.

That they consider that the conditions of service laid down in the Regulations issued by the Insurance Commissioners are intolerable to any self-respecting medical man, and would destroy for ever the independence of the medical profession.

These resolutions were passed unanimously and with great enthusiasm.

This is the original position taken up by the British Medical Association and the National Medical Union, and it must, we feel sure, commend itself to every consistent member of the profession. The National Medical Union has never wavered from these principles, and is not prepared to compromise on any of the original demands; the full granting of them is the only condition upon which its members are willing to work the Act. It is also determined that the voice of the profession shall be heard and respected in this matter, and that the old traditions which have been handed down to us shall be upheld. We would earnestly urge every man who is in sympathy with this policy, and who is not already a member, to join the Union.

We are, Sir, yours faithfully,

G. A. WRIGHT, Chairman.
WILLIAM COATES, Vice-Chairman.
J. SKARDON PROWSE, T. WHEELER HART } Hon. Secs.
J. WEBSTER WATTS, F.C.A., Secretary.

5, John Dalton-street, Manchester.

*** The above communication accompanied a detailed criticism by the Union of the Provisional Regulations for the administration of medical benefits under the National Insurance Act, the criticism being specially directed to the question of how far the Regulations concede the six cardinal points. The conclusions arrived at were published in THE LANCET of Nov. 2nd, p. 1245.—ED. L.

To the Editor of THE LANCET.

SIR,—The following statement shows the average probable income of a general practitioner engaged in general practice (*a*) if the demands of the British Medical Association are acceded to; (*b*) if the latest proposals of the Government were accepted. The statement is based on the Special Report of the State Sickness Insurance Committee of the British Medical Association, which appears in the supplement of the *Journal* for July 6th, 1912, p. 29; was submitted to the Government and was not controverted.

I am, Sir, yours faithfully,

Brighton, Nov. 7th, 1912. E. R. FOTHERGILL, M.B. Durh.

STATEMENT.

1.—Total number of medical practitioners in England, Scotland, and Wales 29,567
Deduct consultant, retired, and whole-time practitioners; those entirely engaged in practice above the industrial class level, &c. 7,000
22,567

Say 22,500 general practitioners are engaged in practice amongst the members of the industrial classes.

2.—Total number of members of the industrial classes ... 36,000,000
" " " insured 12,000,000

3.—The average number of persons attended by a general practitioner would be therefore:—
Insured persons ... ... 533 (Class A)
Non-insured persons ... ... 1066 (Classes B and C)

4.—The non-insured persons can be equally divided into two classes, (B) those who can pay the accounts of a doctor, and (C) those who are dependants of insured persons, or will be subjects of medical charity until the State includes them in the Insurance Act.

5.—The members of Class B can be assumed to pay on an average per head:—

	s.	d.
Ordinary medical attendance (8*s.* 6*d.*) and medicine (1*s.* 6*d.*)	10	0
Extras	2	6
	12	6
Less 10% for bad debts	1	3
Cost of drugs	1	6
	2	9
	9	9

The members of Class C can be assumed to pay annually the average contract practice fee, by means of a club arrangement or otherwise ... 4 8
Less cost of drugs 1 6
2 6

6.—The Government now offers to pay for each insured person 6*s.* 6*d.* inclusive of all extras (except drugs), and in addition requires of the medical attendant numerous special services never yet provided by him at an inclusive fee, and for which no allowance had been made in the demand of the Association (11*s.*).*

The extra 6*d.* per insured person, offered if the chemist's drug and dressing account is kept below 1*s.* 6*d.* per insured person, will probably never be received, and, if it were, would be used to defray the cost of drugs and dressings used by the doctor "in emergency"; for accidents; and at operations.

The 6d. per insured person, offered from the Tuberculosis Medical Service for domiciliary attendance, will be expended in out-of-pocket expenses, if the doctor has on his list more than three persons in every 1000 who are suffering from tuberculosis in any form.

The Association asks that not less than 8s. 6d. shall be budgeted for each insured person, with also 2s. 6d. for extras, exclusive of drugs. This makes 11s. in all. These persons will ask for, and it is acknowledged that they will require, more medical attendance than non-insured persons.

The amount of attendance required has been found to be:—By a private patient, who makes his own arrangements, 1·5 attendances per annum; by a patient attended under contract, 5 attendances per annum.

7.—The average account, therefore, of a general practitioner engaged in industrial practice would be, under the two proposals:—

Government Proposals.

Class A.	533 Insured persons at 6s. 6d. (Government)	£168	4	6
Class B.	533 Non-insured persons at 9s. 9d.	259	16	9
Class C.	533 Non-insured persons at 2s. 6d.	66	12	6
		£494	13	9

British Medical Association Proposals.

Class A.	533 Insured persons at 11s. ...	£293	3	0
Class B.	533 Non-insured persons at 9s. 9d.	259	16	9
Class C.	533 Non-insured persons at 2s. 6d.	66	12	6
		£619	12	3

8.—The above figures are gross figures. Out of such income the doctor would have to defray the cost of conveyance (carriage or motor), garage, coachman, portion of house rent, surgery, servant, cost of locum tenens, insurances having reference to practice, instruments, postage, books of account and reference, &c. This on an average, throughout rural and urban districts, can be estimated to come to not less than £150.

9.—Therefore the average net income for a registered medical practitioner engaged in practice amongst the industrial classes would be:—

Under the Government proposals, say £340
Under the B.M.A. proposals, say £470

Out of which income the doctor would have to defray balance of house rent, food, servants' wages, education of children, clothing, various kinds of private insurance, holidays, wear and tear of furniture, with other incidental expenses, besides placing on one side something for old age.

10.—Taking all these points into consideration, the average income estimated by the British Medical Association cannot be said to be more than would be required to attract those practitioners who have in the past held aloof from contract work.

* Attendance on miscarriages and diseases due to misconduct, patients claiming compensation, and temporary residents; "use of modern means of exact diagnosis"; detailed book-keeping and reports.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Nov. 9th Dr. Cuming Askin takes me to task for saying that "there is to be no mileage fee, and I fail to see that this should be insisted upon." In the Chancellor's letter of Nov. 6th it is clearly stated that any fee for mileage demanded by the profession must come out of the sum equivalent to 7s. per head of insured persons. In other words, if the fee is insisted upon, the town doctor will get less than 7s. per head and the country doctor will get more, but only for those of his insured patients who reside more than one mile from a chemist. Rather than running the risk of raising dissatisfaction in the profession (and I am afraid the town doctors will object to this arrangement) I suggest that provisionally (and the whole scheme is provisional—viz., for three years) the profession should not insist upon the mileage fee. To my mind it would be better if the profession devoted its energies towards the retaining of the whole of the dispensing for the insured, at any rate in country districts. To this, as I said in my previous letter, I would add the demand for larger medical representation on the local committees.

The latest announcement of the Chancellor on the subject of record keeping, which is to be of the simplest form, should reassure the profession. Again, the standard of service reached is to be decided upon by the profession itself, and consequently there will be no fear that elaborate or expensive methods of exact diagnosis will be expected. Much of the letter of the secretary of the National Medical Union published in THE LANCET of Nov. 2nd has been disposed of by the Chancellor's latest announcement—viz., a sum equivalent to 7s. per head is to be "applied solely to medical remuneration without deduction for drugs, administration expenses, or any other purpose."

May I again earnestly ask the profession, and I am especially appealing to those practising in rural districts, to remember the alternative if the Government's latest offer is refused—a Public Medical Service, voluntary in character, unsatisfactory in detail, costly in management. Lastly, but not least, I cannot help thinking that we should be in danger of losing the public sympathy, which, I think I am right in saying, we now have.

I am, Sir, yours faithfully,

Attleborough, Norfolk, Nov. 10th, 1912. G. S. KEELING.

To the Editor of THE LANCET.

SIR,—We desire to protest strongly against the new demand of the Chancellor that the profession should, if the increased grant be accepted, keep records for the purpose of supplying "necessary information" as to the maladies of our patients. The relation that exists between doctor and patient is, and always has been, a confidential one, and nothing but the direct ruling of a judge during the course of a trial has heretofore been able in any instance to break this confidential relationship. But now all this is to be changed, the Hippocratic oath is to be scrapped, and Government officials are, it seems, to obtain for the asking details only imparted to the doctor under the stress of necessity. We hope others will echo our protest against this attempted violation of the patient's privilege (for this is what medical secrecy, or "medical reticence" as we prefer to call it, really is) and that the profession will stand firm against a wholesale usurpation which has probably never been attempted before in any civilised community.

Should the country awaken to a realisation that the doctors collect all and every detail for the benefit of officials, then the profession will find that it has to take a back seat in favour of the herbalist, the bone-setter, and all the other species of the genus quack, to whom the public will by preference resort to safeguard its undisputed rights of privacy.—We are, Sir, yours faithfully,

D. C. WILLIAMS, L.R.C.P. & S. Edin.
W. J. RUTHERFURD, M.D. Glasg.

Treherbert, Glam., Nov. 5th, 1912.

To the Editor of THE LANCET.

SIR,—At a meeting of the Rossendale Medical Society held to-day at Rawtenstall the following resolution was passed unanimously:—

That this meeting of the Rossendale Medical Society agree that we shall accept the full capitation grant provided that we retain the dispensing, and that the conditions of service are made compatible with the best interests and honourable position of the profession and insured persons.

I am, Sir, yours faithfully,

W. A. DUNCAN, Hon. Sec.

Crawshawbooth, Lancs., Nov. 6th, 1912.

To the Editor of THE LANCET.

SIR,—It cannot have escaped the observation of thoughtful men that the method of remuneration, one of our cardinal points, is being tacitly super-ordained for us by the Chancellor in the method of his presentation to us of the financial problem—viz., by capitation figures, 4, 6, or 7 shillings, and their corresponding multiple by the total of the insured. The multiple enables him to talk in millions, which impresses some; the capitation figures impress the remainder of us and the public outside, because it is comparable with the discredited capitation club payments, which on Jan. 15th will be only an evil memory of the past. In neither figure is any clue to the real business transaction at issue afforded, which consists simply of payment for work done.

To satisfy the misgivings of many thousands of us who recognise in payment for work done the only satisfactory or just solution, a wholly delusive and fraudulent scheme is proffered by the Commissioners' Regulations, called payment for work done; but we find it is only the old capitation fund under a new name. The use of capitation figures in the Budget forecasts of the Chancellor is a perfectly business-like proceeding, but we as a profession have nothing to do with these Exchequer calculations, unless it assumed that we have renounced the cardinal point of determining the method of remuneration.

The Chancellor's method of inextricably mingling Budget calculations in our professional dealings with him is subtle to a degree. We are entangled in a field peculiarly and properly his own, as a State financier, with which we have no concern, and he is saved from meeting us in a business-like way on our own ground which we understand perfectly well.

Were we discussing with him a reduced tariff per attendance, both parties to the discussion would be equal, the latter figures being equally familiar to both doctors and the public, and equally so to the public's agent, the Chancellor. The capitation figures, which alone the Chancellor has chosen to offer to discuss with us, enable him to treat us like a pack of hounds, to whom (in the eyes of the public as he calculates full well), he chucks a bigger or smaller chunk of meat, and says, "Scramble for it amongst yourselves; if that's not enough, here's another big chunk; scramble for that. I don't care a rap who gets the biggest piece, or if some go without altogether. In fact, of course, I can't arrange these details."

Already some of the hungrier hounds have begun to scramble, even before the pack-law permits; but are the majority of us as hungry as all this? What a dignified position for a great profession to accept! But it is an exact image of the position we are in, if we condescend to dally with the Chancellor's capitation figures in shillings or in millions, however often the dog-meat is increased, and so long as we allow him to throw nothing but Exchequer figures at us to scramble for as a pack. Has our great profession really come to this?—I am, Sir, yours faithfully,

Osmotherley, Northallerton, Nov. 9th, 1912. H. B. LUARD.

To the Editor of THE LANCET.

SIR,—I am sure that the profession is united in believing that under the present regulations the National Insurance Act is unworkable. Also that they are divided on the point as to whether negotiations should be reopened. To those who are of opinion that negotiations should be reopened, may I call their attention to the six cardinal points once again, as being fixed by the Association as the irreducible minimum. On the strength of that resolution I, along with others, joined the Association. If, now, we are told that they were never intended as an irreducible minimum, but simply as a pious expression of what we might get, then I am afraid, Sir, that I have joined under a misapprehension, and that instead of a straightforward game we have been playing a game of bluff, which, if continued, will make the pledges that we have signed so much waste paper. This position would indeed be intolerable, as it would result in every man for himself and the Devil take the weakest.

This will be a creditable ending indeed to the Association if they determine to reopen negotiations before the six cardinal points have been granted by law. Now as to the advisability of reopening negotiations, I still believe that the profession have determined to have the six cardinal points granted, and that it is with that object that some wish negotiations to be resumed. Now this is my point—that in the past while negotiations were going on we gained nothing; when we broke off negotiations then we gained (perhaps?) some advantage. This, I think, should teach us the lesson, that nothing less than an ultimatum (and one we are prepared to follow to the end) will win our just fight. This ultimatum has been given, and to it we should stick if we intend to uphold the honour of our profession. Without the honour, what will be the temptation for the next generation to join the profession? Certainly not the chance that they will ever make a fortune, however hard they strive.

I am, Sir, yours faithfully,

STANLEY YEOMAN, M.B. Cantab.

Prestwich, Nov. 11th, 1912.

To the Editor of THE LANCET.

SIR,—The question of whether it will be the best policy to continue resisting the National Insurance Act or to try and work it with all its obvious defects is quite as important as the discussion of those defects. If we try to work the latest scheme for providing medical benefit we shall take up a very strong position which will give us considerable advantages in any future struggle to remove some of the defects of the scheme; we shall retain the sympathy of the majority of the nation; we shall not estrange any friends; we shall not weaken ourselves by any failure; and we shall avoid any danger of disturbing the unity in the profession which has been the chief factor in achieving the successes which have been attained, and which is essential to the success of any future effort. I am, Sir, yours faithfully,

DISCRETION IS THE BETTER PART OF VALOUR.

Nov. 9th, 1912.

To the Editor of THE LANCET.

SIR,—The time has now arrived when the medical profession in Great Britain must decide whether it will or will not consent to carry out the scheme of "medical benefit" embodied in the National Insurance Act. The decison should take careful account of the following facts, which are of much greater importance than the precise amount of the remuneration offered.

1. The Act gives, and is intended to give, to many millions of persons free access to their doctors, unchecked by any consideration of expense to themselves. However desirable this may be from the point of view of the benevolent legislator, and also from that of public health, it will unquestionably add enormously to the claims on the time and energy of the doctors. 2. These millions of persons will in future have a *legal right to demand* the attendance of the doctor. It is certain that this privilege will be grossly abused, and that the doctor will often be worried by needless calls and at unreasonable hours. 3. The doctor will be *under a legal obligation to attend* when called upon to do so. Failure to answer all these calls (due, for instance, to an obstetric engagement) will expose him to complaints, and to the worry and loss of time caused by establishing his defence. 4. The complaints will be made to a body chiefly composed of the representatives of the insured persons. 5. It is certain that there will be a large and rapidly increasing amount of malingering. Any attempt to arrest this will lead to complaints to these same hostile committees. 6. A large number of certificates will have to be given gratuitously. 7. Accurate records of attendances and other particulars will have to be kept without any remuneration. 8. Much time will be spent in attending medical committees and insurance committees, also without any remuneration. 9. Medical inspectors are to be appointed to pass judgment on the doctor's work, and to insist on the adoption of what seems to them proper treatment, even though he may think such measures (e.g., tuberculin injections) likely to be injurious to his patient.

Surely, Sir, the profession will be wise to safeguard its freedom by refusing to consent to such conditions as these.

I am, Sir, yours faithfully,

Nov. 11th, 1912. F.R.C.P.

SOCIETY OF MEMBERS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Dr. Sidney C. Lawrence, honorary secretary of this society, announces that at the annual general meeting of Fellows and Members to be held at the Royal College of Surgeons of England, Lincoln's Inn-fields, W.C., on Thursday, Nov. 21st, at 3 P.M., the following resolutions will be moved on behalf of the above society. Sir Victor Horsley will move:

That this twenty-eighth annual meeting of Fellows and Members again affirms the desirability of admitting Members to direct representation on the Council of the College, which as now constituted only represents those Members who also hold the Fellowship, and that it does so in order that the constitution of the Council of the Royal College of Surgeons of England shall be in keeping with modern ideas of true representation.

Dr. W. G. Dickinson (honorary secretary of the society for 15 years) will move:

That this meeting regrets that the Council has not called a special general meeting of Fellows and Members to consider the National Insurance Act, 1911.

THE LATE DR. J. E. RANKING.—An influential committee has been formed to promote a fund which is to be devoted to commemorate the services to both rich and poor of the late Dr. J. E. Ranking, who was killed in a motor-car accident recently. For over thirty years he rendered devoted and successful assistance to the General Hospital at Tunbridge Wells, and it is proposed to apply the fund in some practical way for the benefit of the sick and suffering poor. The form which the memorial will take naturally depends upon the amount forthcoming, but it is hoped that the sum will be a substantial one, so as to admit of some form of permanent endowment. Cheques may be sent to Mr. F. Wadham Eles, chairman, General Hospital, Tunbridge Wells.

THE FIFTEENTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY AT WASHINGTON.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

(*Continued from p. 1248.*)

Washington, Oct. 7th.

Town Planning.

IN the afternoon of Thursday, Oct. 3rd, Section VI. was again well attended, and Sir GEORGE MCCRAE opened a debate on town planning. The great question was how to make reforms pay. If the strain on municipalities was too great, the projects would fall through. Already, he thought, garden cities had spent too much on ornamentation. Town planning schemes to be really effective must retrieve the blunders of the past, and this was by far the most expensive and difficult side of the subject. Actually, while large sums were spent on pulling down old and bad quarters, new districts were being built up which would in time prove just as insanitary as those demolished. Millions of money were thus wasted. It was far preferable to deal with virgin soil where no vested interests existed. On the continent of Europe they thought more of the beauty of the streets than of domestic hygiene. Splendid boulevards at Berlin and elsewhere merely masked the slums hidden behind Liverpool was the town where the most successful rehousing schemes had been applied. The price of land and the cost of procedure were a terrible impediment. The demarkation between town and country government had rendered joint efforts difficult. But the Town Planning Act now enabled one local authority to carry plans beyond its own boundary, and the Local Government Board could restrict the number of houses built on any area. This would lower the price of land but would extend the area of towns. Therefore, cheap transit was essential, and at Berlin workmen could travel for 4*d.* per week. Good progress had already been made, and in Scotland during two years no less than 23 town planning schemes had been introduced.

Mr. ROBERT W. DE FOREST, of New York, explained that what had been aforetime prescribed by the law was now condemned by the law. In 1867 the law said that all houses must have privy vaults, which term presumably meant cesspools. But by the law of 1901 these abominations were declared illegal and were removed from 70,000 houses in New York City. Before proper housing by law could be enforced the people must be educated to the point of demanding such conditions. The passing of resolutions and laws was a much quicker process, but it was not possible to apply what the people did not appreciate. On the other hand, much could be done without legislation where a real demand existed. Thus, baths were now supplied on a large scale in private dwellings, but there was no law on the subject.

Sanitation on the American Farm.

Dr. J. N. HURTY, of the State Board of Health, Indianapolis, treated the section to a satirical and amusing paper on Rural Hygiene. The farmhouse bedrooms in America were so badly ventilated, he said, that even the fire burnt slowly for want of oxygen. The ignorance of the farmer and his unwillingness to learn were phenomenal. There was a great deal of typhoid among them, and as this disease was due to communal sinning much missionary expenditure was needed at home. As a rule the farm well and the farm privy were intimately associated. Dr. Hurty knew a farmer who, having inherited a sanitary house, tore out the bath and destroyed the water-closet as complicated and unnecessary paraphernalia. Good cooking was an art not generally known or practised on the farm. The pasty complexion and the sunken epigastrium of the eaters testified to its injuriousness. There was much overeating of tasty but indigestible food, and the too free use of condiments encouraged this. The prevalence of dyspepsia, rheumatism, headaches, biliousness, so-called malaria, vertigo, and eczema could be easily traced to such habits. The frying-pan was overworked, and far too much smoked, pickled, and salted meats were eaten. He believed it was the vitiated house air, the polluted drinking-water, the neglect of the bath, the poor bread, the fried embalmed meats, and overeating that made the farmer fly so extensively to alcohol and patent medicines, as the empty bottles all about the place testified. This was a phase of American life which the visitor from Europe had little opportunity of seeing. No paper read at the Congress was more heartily appreciated, and the accuracy of Dr. Hurty's picture was not challenged.

Alcohol and Phthisis.

At a joint meeting of the Division of Demography and Section IV., Hygiene of Occupations, Dr. JACQUES BERTILLON, Chief of the Bureau of Municipal Statistics of Paris, insisted that innkeeping was an occupation which, by encouraging alcoholism, increased the mortality from phthisis. He quoted some English statistics showing that from the ages of 25 to 55 years the number of deaths from phthisis was twice as high among innkeepers as among shopkeepers. Though everyone knew that alcohol attacked the liver, he thought it was much more fatal in its effect on the lungs. Indeed, all diseases except cancer occurred more frequently among English public-house keepers than among shopkeepers. In English public-houses, however, spirits were largely drunk. In France, it was clearly demonstrated that spirits were a prolific cause of phthisis. South of the Loire, where the grape-vine abounded, proportionately little spirits were consumed, for wine was cheaper than the glass or wooden vessels in which it was contained, and in this region phthisis was of rare occurrence.

Mr. EDWARD BUNNELL PHELPS, editor of *The American Underwriter*, gave figures collected by life insurance companies showing that alcohol might be considered as a factor in 5·1 per cent. of the total deaths, or 7·7 per cent. of the deaths occurring after the age of 20 years. These figures are based on a total estimated population, in America, of 86,874,990. Other estimates, though different in detail, corresponded generally with these figures.

Dr. W. F. BOOS, from Boston, quoted German statistics showing that 7 per cent. of the accidents to workmen were dependent on the use of alcoholic drinks, and cost the German sick benefit societies close upon 5,000,000 marks per annum. On the Lockawanna Railway last July 39 lives were lost because the engine-driver was the worse for drink. At Berlin railway servants were examined before they were allowed to go on duty; this was, he thought, essential, especially in regard to engine-drivers and pointsmen.

The Treatment of Inebriates.

Dr. IRWIN H. NEFF, of the Massachusetts State Hospital for Inebriates, said that all legal and punitive measures against drunkenness had completely failed. Whatever could be done, he urged, could be successfully done only by the State. Private institutions, and even municipal institutions, could not grapple with the evil. There was in any case a better prospect that the State would apply modern and humane methods. They must act not as fanatics but as reasonable beings, and therefore recognise that a comparatively small percentage of users of alcoholic drinks were confirmed drunkards. Both curative treatment and custodial care of cases susceptible of benefit were needed. The recidivist who constantly appeared in the courts should be placed under restraint.

Mr. ROBERT A. WOODS, of the South End Settlement, Boston, thought that with better sanitation generally, better food for mothers, and better milk for children there would be less drunkenness, for public baths, gymnasiums, playgrounds, healthier and more joyous lives would strengthen the power of resistance, moral as well as physical, of the city dweller, since inebriety was an accentuated expression of an underlying nervous disorder.

It seemed to me that in this discussion there was too great a tendency to regard the drunkard as an offender, if not actually a criminal, against whom severe measures should be adopted, while not enough attention was paid to the poisonous concoctions sold as alcoholic drinks, which are in part responsible for the number of persons who have become drunkards.

Ventilation.

Mr. D. D. KIMBALL, member of the American Society of Heating and Ventilating Engineers, opened, in Section VI., a debate on ventilation. The speaker protested against the modern cult of the open window, saying that artificial ventilation was sought precisely because the opening of windows for ventilating purposes did not work. They had to deal, he said, with the chemical composition

of air, its contained organic matter from body exhalations and excretions, and with its dust, humidity, and temperature. The air volume must differ according to the number and the occupations of the persons concerned. Much painstaking study, investigation, and experimentation were needed. The coöperation of experimenters was necessary. There were physiological, medical, and engineering problems which must be solved simultaneously, and they were not to be answered by merely throwing open a window to the general discomfort.

Professor C. E. A. WINSLOW, Curator of Public Health at the American Museum of Safety, New York, complained of the lack of a proper theoretical basis. No distinction existed between competent and incompetent ventilating engineers. Even when a good system of ventilation was introduced its regulation was entrusted to incompetent janitors. Mechanical fans had become unpopular from this cause. Systems of ventilation proved failures also because no provision was made for the removal of excess heat. Cooling as well as ventilating was required. Dr. Howard Evans, at Chicago, had done some remarkable work on these lines. The first thing was to guard against overheating and excessive moisture. This was best done by constantly supplying air of lower temperature than that of the room. Inside the temperature should never exceed 68° to 70° F. If the temperature was 60° each person required 2000 cubic feet of fresh air per hour to prevent the temperature rising in consequence of the heat the average adult produced. If introduced air was at a lower temperature it should enter by the floor, but it should be tempered in cold weather so as not to cause discomfort. Downward ventilation failed when the room temperature equalled that of the incoming air. Window ventilation might be satisfactory in hospitals, but it was wholly impracticable in factories and assembly rooms, and it was doubtful whether it would ever be generally adopted in schools. Finally, it was essential that the cool, tempered air should be evenly distributed from properly designed ducts through openings sufficiently numerous to avoid draughts.

The Food-supply.

As might be expected cold storage and the supply and handling of food were extensively discussed at the Congress. In this respect it is gratifying to learn that there is a hotel at Indianopolis where all the servants concerned with the handling of food or laundry work are periodically medically examined. State rather than municipal action seems effective at Indianopolis. Five inspectors are appointed by the State to visit and check the work of local authorities, and it is now insisted that local officers shall pass technical examinations.

Dr. MARY E. PENNINGTON, of the Food Research Laboratory, Bureau of Chemistry, U.S. Department of Agriculture, Philadelphia, who thus represents the Central Federal Authority, added many explanations to the paper she contributed to the proceedings. The shortage of foodstuffs (felt even in the States) had compelled the Government to deal, not only with their adulteration, but also with their preservation. By checking deterioration the supply was increased, and the rise in prices controlled. The law might prevent rotten goods reaching the market, but it did not teach carriers, warehousemen, and middlemen generally to handle these things properly. Some knowledge of chemistry and bacteriology was required. The whole commercial routine must rest on the fundamental facts concerning the origin and results of decay. Therefore industries must coöperate with the scientific investigator. Only thus had the citrus fruits of California become so stable a commodity that it had almost been forgotten that they were perishable. The orchards of Oregon provided the Atlantic seaboard with fruit, and the Atlantic supplied Colorado with excellent oysters. On the other hand, ignorance and carelessness played cruel havoc with the poultry trade. The unhappy birds were sent alive to large cities, arriving wounded, thin, fevered, and altogether undesirable for food. With scientific care eggs previously cooled were more appetising and fresher after a week's transit in a refrigerating car than eggs from a farm close at hand, where the methods of handling were antiquated and careless. Even the frozen and dried eggs used by bakers, she said, could be, and were being, prepared with a degree of care and skill that approximated to the routine of the bacteriological laboratory; and the cold storage industry was working with the authorities, represented by the Department of Agriculture, to establish a satisfactory system of food preservation. The speaker had visited many farms and had given instruction in bacteriology till the farmers began to understand that after opening a bad egg it was necessary to sterilise everything that had come into contact with it. The women—originally the roughest among underpaid foreign immigrants—employed to open eggs were now taught to observe scrupulous cleanliness, and were rewarded incidentally by the increased beauty of their hands. These big, active, quick girls were now working with earnestness and energy because they had realised the importance of what they were doing, with the result that they were no longer unskilled labourers, but part of a vast scientific organisation destined to save the food of the nation. Photographs were shown illustrating the contrast between the old insanitary and the modern scientific methods of dealing with eggs.

(To be continued.)

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Ireland and Medical Benefits under the National Insurance Act.

MEDICAL men in Ireland were much astonished at a recent communication to the *Standard* purporting to be the account of negotiations between Mr. Thomas J. Kelly, of Enniscorthy, described as "President of the Irish Medical Association," and certain prominent Members of Parliament, relating to the extension of medical benefits under the Insurance Act to Ireland. It was stated that terms had been agreed upon, and were to be referred to a Select Committee of the House of Commons. The terms, of which some were mutually contradictory, were given in detail. They bore no relation, however, to any demands put forward hitherto on behalf of the medical profession here. Moreover, Mr. Kelly is not President of the Irish Medical Association, and it is well known that the conduct of all negotiations on behalf of the Irish profession has been committed to the Conjoint Committee of the Associations. Under these circumstances, readers were at a loss to understand the meaning of the statement in the *Standard*. Mr. Kelly lost no time in disclaiming any share in the alleged negotiations. He wrote stating that he had never met or written to any of the Members of Parliament mentioned, that he has not and never had been President of the Irish Medical Association, that he had not been authorised to conduct negotiations on behalf of that or any other body, and that he had conducted no such negotiations. The whole story appears to have been an invention, but its publication may have done harm. There is a certain amount of agitation among the public in favour of the extension of medical benefits to Ireland. The Lord Mayor of Dublin took the opportunity last week of speaking in public in favour of such extension, and it is probable that he represents the opinion of most of the city and town populations. The rural communities, on the other hand, are, for the greater part, against the extension. One thing, however, is clear, those becoming members of the Approved Societies and all the friendly organisations wish medical benefit to be extended to all parts of the United Kingdom. The great difficulty at present is to find any way to provide sanatorium benefit. For instance, the Tyrone county council on Nov. 11th decided unanimously to rescind a resolution passed at their previous meeting to take beds at Peamount Sanatorium, and they agreed to appoint a committee to go into the whole question and to confer with Dr. E. C. Thompson, chairman of the Tyrone Medical Officers' Association, who was asked to place a scheme—which he had at a previous stage of the proceedings put before the members—in the hands of the secretary of the county council for further consideration. Dr. Thompson objects to Peamount Sanatorium, and thinks the best solution would be for the County Tyrone council to erect a sanatorium to accommodate 25–30 beds, and to retain the grant coming to them in the county. At a meeting of the Belfast Local Medical Committee held on Nov. 11th a resolution was passed to the effect that, in addition to what is paid to any hospital for the upkeep of an insured person for sanatorium treatment, a sum of at least 5*s.* per week be paid the medical staff,

the idea being to affirm the principle that the State must pay those attending its insured people.

Poor-law Medical Officers as County Councillors.

For some time past Mr. W. Hennessy, medical officer of the Galbally dispensary district, has been a member of the Limerick county council. The Local Government Board took exception to his occupying this position, and some weeks ago threatened to deprive him of his office under sealed order unless he resigned. Thus coerced he has sent in his resignation to the council. Both the board of guardians and the county council have requested the Local Government Board to alter its decision. It is doubtful, indeed, whether, had the Board carried out its threat, the order would have been held good in a court of law.

Local Conditions of Employment of Medical Officers.

A vacancy having occurred for a medical officer in the Swinford Union, county Mayo, the guardians decided that they would, as a condition of appointment, require candidates to agree to abide by a scale of fees in their private practice. A scale was drawn up by a committee of the guardians, and no opposition was offered by the Local Government Board. One candidate was found who consented to sign an agreement to abide by the scale of fees, and he was elected. This is the first instance in Ireland in which a Poor-law medical officer has definitely consented to give the guardians authority over his relations to private patients, though several boards of guardians have, on the instigation of the Local Government Board, made attempts to impose scales of fees.

Sanatorium burned to the Ground.

Last Sunday the Queen's County Sanatorium at Maryborough was totally destroyed by fire. The sanatorium, which was only opened last year, was in the grounds of the County Infirmary. When the fire was discovered the patients were safely removed, but the damage is estimated at £1000, which is said to be covered by insurance.

Royal Humane Society: Award to a Medical Man.

At the last meeting of the Kilkee town commissioners the chairman presented the testimonial of the Royal Humane Society to Mr. C. Cornelius Hickey, medical officer of the Kilmihill dispensary district, who last July saved a boy from drowning near Kilkee. Though encumbered by his clothes and boots Mr. Hickey plunged into the sea and with great difficulty brought the lad safe ashore.

Ulster Medical Society.

The opening meeting—for the present session—of the Ulster Medical Society took place on Nov. 7th, when the outgoing President, Dr. H. L. McKisack, introduced his successor, Dr. R. W. Leslie, who gave an interesting inaugural address on infectious disease as met with in a public school. It was based on his experience as physician to the Campbell College. On the motion of Professor J. A. Lindsay, seconded by Sir W. Whitla, a hearty vote of thanks was passed both to the outgoing and incoming Presidents. The annual dinner will take place on Nov. 21st.

The Belfast Union Infirmary.

It is understood that the Belfast board of guardians are about to appoint a special medical attendant with care of the Children's Hospital and the Workhouse School, and it is hoped that, as they did in appointing an ophthalmic surgeon, they will select for this important position one who has really devoted specialised attention to a study of the diseases of children. No other form of selection will give satisfaction to the profession and to the medical school, as the union infirmary is now a place recognised by the University where students may receive clinical instruction.

Nov. 12th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Sterility in Woman.

AN important part of the much discussed problem of depopulation was dealt with at the Société Obstétricale de France in October last, when M. Funck-Brentano and M. Planchu took up the treatment of female sterility. This treatment, they said, was at present in a state of uncertainty and obscurity. There were two kinds of sterility—viz., primary, where fecundation had never taken place, and secondary, where sterility followed on previous fecundation. The frequency of sterility among patients in the hospital gynæcological services, taken *en masse*, oscillated between 14·3 and 16·9 per cent. But it might be considered that in about a quarter of the marriages the sterility was due to the man. An important factor of sterility in woman was the gonorrhœal infection conveyed on marriage by the man. Too often the cause of the sterility was overlooked. The sterility of peritoneal, tubal, or ovarian origin was very often incurable. Genital infantilism also defied treatment. Sterility of septic origin was much more serious than that of mechanical origin. The authors discussed sterility due to general diseases or causes, such as syphilis, diabetes, chronic albuminuria, tuberculosis, obesity, intoxications, and menstrual troubles; and next, to those of local origin, such as congenital and acquired atresia, functional atresia, and vaginismus. Functional anomalies in the genital act, congenital malformations of the vagina, acquired malformations, abnormal communication with neighbouring organs, vaginal tumours, acute or chronic inflammations, might alter the secretions. Anomalies of development of the uterus, such as uterine malformations, uterine aplasia and hypoplasia, cervical obstacles, septic inflammations, uterine misplacements, and uterine tumours were considered. It was stated that of all these obstacles those that had their origin in disease of the tube or the ovary were the most grave, the least curable, and the most frequent. Finally, the authors dealt with secondary sterility, of which lesions of the uterus, tube, ovary, or peritoneum due to gonorrhœal infection were a frequent cause.

The College of Athletes.

A provisional committee has been constituted to establish a college of athletes for the study of questions relating to physical education, training, and the physiology of exercise. It will be a training school for civil and military instructors and for specialist physicians. Chosen athletes selected with an eye to championships will be trained there. A central college is to be built in the environs of Paris, with annexes in the provinces, to study more in detail the racial qualities of each locality. The college will be situated on about 12 acres of ground, on which will be erected a vast stadium, where all athletic sports can be practised in the open air. In its centre will be a swimming pool 100 metres in length. A huge building will be built near the stadium to allow of the practice of all sports in bad weather. Grass spaces also will be constructed for games and sports, such as football. Competitions may be organised later in which prominent athletes can meet.

Hygiene as a Study for Ministerial Officials.

The Minister of Justice has issued a circular stating that his attention has been called to the defective hygienic organisation of certain public and ministerial offices. Frequently the quarters in which the clerks work are too confined for the number of persons who have to occupy them, or they are damp or badly lighted, and insufficiently ventilated and aired. As such a condition favours tuberculosis among other evils, the Minister calls on the permanent officials to signify to those concerned the importance attaching to the maintenance of hygienic conditions. He calls on them to have such places inspected, with a view to the remedying of any existing imperfections in this regard, and having them brought into conformity with modern ideas. He further demands a complete report from the *procureurs-généraux* on this matter by Jan. 1st.

Lodging and Growth.

M. Gindes has made a study of the injurious influence of overcrowded dwelling-places. He deals particularly with the development of little children, as evidenced by the eruption of the first teeth and the first effort to walk. In a healthy dwelling the first tooth appears in 60 per cent. of cases towards the eighth month. As to walking, normally a child should begin to walk at an age between one year and a year and a half; but in overcrowded dwellings only 25 per cent. of children begin to walk at this age, and 50 per cent. do not begin until after two years. Air, light, and sunshine, he says, are as indispensable for children as good milk is, and it is surely a little wonderful that this lesson has still to be learnt.

Radiography in Hydronephrosis.

On Nov. 6th M. Legueu communicated to the Société de

Chirurgie some observations as to the value and limitations of radiography in the diagnosis of hydronephrosis, the methods hitherto in use being uncertain in their results. Pain, he said, frequently disappeared when the hydronephrosis attained a certain size. On the other hand, when the hydronephrosis was small, palpation frequently gave negative results. Ureteral catheterism acted well in certain cases, but the catheter might stop short of the obstacle, and thus withdraw only a small part of the fluid altogether disproportionate to the total amount. Injections of a certain quantity of fluid might lead to error. In these different circumstances radiography might be of service. M. Legueu has used it in a case of supposed appendicitis, in which the appendix on removal was found to be normal. In another case, in which injections of 40, 50, and 60 grammes of collargol had been made, radiography demonstrated that the entire kidney was dilated and destroyed, indicating total ablation. Radiography was capable also of disclosing a hydronephrosis of the calyces, and, if used early, a dilatation of the ureters and the consequent alterations in the kidneys.

Obituary Notes

French science—indeed, one may say international science—has recently sustained a severe loss in the death of Professor Paul Ségond, who died on Oct. 27th. His premature decease was entirely unforeseen. Ségond was not advanced in age, and appeared even younger than he really was. He was full of animation, of life, and showed every indication of having a considerable career in front of him. The son and grandson of a physician, he was born in Paris on May 8th, 1851. After service as an externe he was appointed an interne at the competition of 1875. He became assistant in anatomy, then in 1879 prosector. In 1882 he became chief of clinique to Professor Trélat. A year later saw him a *professeur agrégé* in surgery and surgeon to the hospital. In 1905 he was appointed to the chair of Operative Surgery, which he resigned two years later to take one of the chairs of Clinical Surgery of the University of Paris. He was a skilful and highly esteemed surgeon. Among his numerous publications should be mentioned particularly his thesis for the doctorate on Prostatic Abscess, and his thesis for the associate professorship on the Radical Cure of Hernia. Other important communications were his Studies on the Treatment of Uterine Fibroma by Ovarian Extirpation, and upon Vaginal Morcellement; his report on the Surgical Treatment of Cysts of the Liver; his note on Resection of the Maxillary Nerve and the Spheno-palatine Ganglion in the Pterygo-maxillary Fissure by the Temporal Route; and his Operative Method for dealing with Recto-vaginal Fistulas. Finally, in collaboration with M. Schaeffer, he published an Atlas of Gynæcologic Technique. Professor Ségond was a Laureate of the Institute and of the Société de Chirurgie (of which he was secretary-general and President), a former President of the Société d'Obstétrique, de Gynécologie, et de Pédiatrie. He was also an Officer of the Legion of Honour and a member of the Academy of Medicine. At his funeral the Academy was represented not only by its officers and a delegation, but also by the presence of a very large number of colleagues, and a funeral oration was delivered in eloquent and moving terms on behalf of the Academy by M. Richelot

Nov. 11th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The German Red Cross Society.

THE German Red Cross Society has been very active in sending expeditions to the seat of war. The first of them proceeded to Constantinople under Dr. Siebert and Dr. Hitzler, with two nurses from the Olga Hospital in Stuttgart and two male attendants. They will provide accommodation for patients in the premises of the German Embassy. A similar expedition consisting of Dr. Schubert and Dr. Kirschner of Berlin, two nurses, and two male attendants has been sent to Bulgaria. The head of the expedition to Greece is Dr. Coenen, of Marburg, who took part in the war between Japan and Russia. An expedition to Servia is in course of preparation, but has not yet been despatched owing to the want of funds. The committee of the Red Cross Society has explained that, according to the statutes of the society, its general funds are not to be spent on foreign expeditions, but are to be reserved for use in wars in which Germany is concerned. The cost of expeditions sent abroad must therefore be entirely defrayed by voluntary gifts from friends of the society. The German Emperor has contributed 30,000 marks (£1500).

Manufacture of Catgut for Surgical Purposes.

As cases of tetanus have occurred in consequence of infected catgut being supplied to surgeons, the Minister of the Interior, as head of the Government medical department, has issued new regulations for manufacturers undertaking the preparation of catgut. These regulations require that the rooms where catgut is prepared must be well lighted, and the doors and windows capable of being well closed. Curtains, wall-paper, and wooden floors are prohibited, but the walls must have a coating of oil paint and the floor must consist of cement or terrazzo. The workmen before entering the room have to clean their shoes from the dust and dirt of the street, and must put on a clean linen suit, their clothes being deposited outside the workrooms. Washing accommodation must be provided within the workrooms. For the preparation of catgut only fresh intestine of animals certified as healthy by a veterinary surgeon may be used, and it must be kept in receptacles provided with a cover and put in a cool place. The intestine must be cleaned by mechanical means and then disinfected by chemical compounds. The finished threads must be dried in specially well lighted and ventilated rooms; paraffin and fat are not allowed to be used for making them flexible. Each roll of thread ready for sale must be wrapped in impervious paper to protect it from dust and damp, and the packages must have labels indicating the method of sterilisation used by the factory.

Death of Professor Löbker.

The German medical profession has sustained a heavy loss by the death of Professor Löbker, of Bochum, President of the Deutscher Aerztevereins-Bund, an association of the German practitioners' societies to which allusion has several times been made in these columns. You have briefly announced the sad event already. Professor Löbker, from the beginning of his medical career, was much interested in professional matters. When an assistant in the surgical clinic in Greifswald he was sent as a delegate of the local medical society to the congress held at Eisenach in 1886. In 1889, when he became chief surgeon to the miners' hospital in Bochum under the Workmen's Insurance Act, he continued his work for the association, and in 1894 became a member, and in 1900 president, of its organising committee. It was by his efforts that harmonious relations were established between the Aerztevereins-Bund and the subsequently formed association known as the Leipziger Verband, the latter of which at first defied the former, but by his diplomatic talent an agreement between both societies was arrived at, so that they now work together for the welfare of the profession.

Death of Professor Ebstein.

Professor Ebstein, of Göttingen, one of the most celebrated physicians in Germany, who has recently died, was born in 1836 at Jauer in Silesia, and received his medical training in Breslau and Berlin. In 1869 he was recognised *privat-docent*, and in 1874 was promoted to be extraordinary professor at the University of Göttingen. He subsequently became ordinary professor and director of the medical clinic of the same university, an appointment held by him until 1906, when he resigned owing to his advanced age. His renown rests especially upon his work in the investigation of diseases of metabolism, such as gout, diabetes, and obesity; and upon observations which he made on diseases of the kidney and on cancer. A man of extensive general knowledge, he was the author of several memoirs on historical events regarded from a medical point of view. He was an excellent teacher and an interesting lecturer, much liked by the students.

The Prevention of Venereal Diseases.

The Society for Combating Venereal Diseases was founded in 1902 and celebrated the tenth year of its existence by a special meeting held on Oct. 19th, Professor Neisser, of Breslau, being in the chair. It was stated that the present number of members was more than 5000, including, in

addition to the medical members, men and even women of every class of the population. Insurance companies, sick clubs, and benevolent associations had also joined the society, several town councils supported its work, and local branches existed throughout the empire. The society has done good work in influencing legislation. The former restriction in the workmen's insurance law, by which patients suffering from venereal diseases were not entitled to sick-pay, has been abolished. Lectures have been, and still are being, delivered to students of other faculties than the medical, and also to young men of other classes, including workmen, and popular literature has been distributed in great quantities. The public discussion of the subject has done much to make the general population aware of the dangers of these diseases and the methods to avoid them. The director of the Government medical department who attended the meeting read an address, in the course of which he announced that the laws relative to prostitution would be amended, and that the powers of the medical officers of this branch of the public service would be increased.

The Leyden Lecture.

The Leyden lecture, with which since the death of Professor Leyden the winter session of the Society for Internal Medicine opens, was this year delivered by Dr. E. F. Bashford, director of the Imperial Cancer Research of London. The lecture being an event of great interest, a large number of members were present, together with other distinguished medical men and some of the family of the deceased honorary president. Exigencies of space allow only a brief reference to the leading points of the discourse. Dr. Bashford, who spoke German remarkably well, first discussed the statistical records of cancer. He said that the method according to which all the cases of cancer were considered together gave erroneous results, because important facts did not always clearly appear. For instance, it was true that cancer was more frequent after than before the age of 35 years; but if the cases were analysed according to age, sex, and the various organs affected, it became obvious that great differences existed for the individual organs. The maxima of frequency were reached at different times. For some organs the number of cases increased continuously as age advanced, but for other organs it decreased after having reached a maximum. Dr. Bashford was of opinion that a general increase of cancer has not been proved. For some organs there has certainly been no increase, whilst for others a more exact diagnosis might have contributed to an apparent greater frequency. Social conditions, food, and density of population were of less importance in the causation of cancer than in the case of tuberculosis. Vegetarians were not less liable to cancer than meat-eaters. Japanese and Hindoos who lived exclusively on vegetable diet were by no means exempt from cancer. If infection did not occur chronic irritants must be regarded as the cause of the development of cancer. In describing his experiments on animals he discussed the subject of spontaneous recovery as observed in transplanted and non-transplanted tumours. Among transplanted tumours there were some forms which grew progressively and produced metastases in 95 per cent., whilst there were on the other hand growths which nearly always terminated in spontaneous recovery. In contradistinction to this, in 800 non-transplanted cases spontaneous recovery was found to be a very rare event, happening in only 1 per cent. of the cases. Dr. Bashford expressed the opinion that the experiments of Dr. Neuberg and Dr. Caspary in attacking the tumour cell directly by "tumoraffinic" substances were theoretically correct.

Nov. 11th.

ROYAL STATISTICAL SOCIETY.—At a meeting of this society to be held on Tuesday next, Nov. 19th, at the rooms of the Royal Society of Arts, John-street, Adelphi, W.C., a paper will be read by Dr. R. Dudfield, entitled "Stillbirths in Relation to Infantile Mortality." The paper will deal with the report of a special committee appointed by the council of the Royal Statistical Society to inquire into the systems adopted in different countries for the registration of births (including still-births) and deaths, with reference to infantile mortality.

Obituary.

LUDOVIC WILLIAM DARRA MAIR, M.D. LOND., M.R.C.S. ENG., L.R.C.P. LOND., D.P.H.,

MEDICAL INSPECTOR OF THE LOCAL GOVERNMENT BOARD.

Dr. L. W. Darra Mair, whose unexpected death at the early age of 46 occurred on Nov. 4th, was the eldest son of Dr. R. Slater Mair, formerly of Madras. He was born on the troopship *Darra* on her voyage from India to England on May 13th, 1866, and was educated first privately in London and afterwards at Epsom College. Thence he entered St. Bartholomew's Hospital with a scholarship in 1883, qualified in 1887, obtained honours at the M.B. London examination in 1888, and the M.D. degree in 1890. For two years he was assistant medical officer at The Coppice Asylum, Nottingham, but speedily became attracted by public health work, and obtained the appointment of medical officer of health to the Croydon rural district, settling at Carshalton, where he lived up to the time of his recent fatal illness. In beginning his new work he was fortunate in being associated with Dr. E. Seaton, whose counsel and assistance he greatly valued, and he soon showed exceptional fitness in administration and in scientific investigation.

In 1898 Dr. Mair was appointed by Mr. Chaplin to a temporary post as medical inspector of the Local Government Board, and joined the permanent staff in the following year. No better appointment could have been made. Dr. Mair was not only an industrious and untiring worker, but he possessed an acute sense of proportion and an invaluable habit of refusing to take things for granted, while he had an excellent literary style and great powers of logical exposition. With the encouragement and guidance which Sir William Power, then principal medical officer, gave so freely to his juniors, these qualities were rapidly developed and brought to bear on the work of the central medical department, and during his service, first with Sir William Power and later with the present principal medical officer, Dr. A. Newsholme, Mair became recognised in the Local Government Board as one of the soundest "all round" men in the service, who could always be relied upon to extract the essential facts and considerations from any investigation which he undertook.

Reference may here be made to some of Dr. Mair's most noteworthy reports, which were published in the medical officer's annual volumes or separately issued. The report on Bilston and Coseley (1900) analysed the causes of continued enteric fever prevalence in a typical Black Country area, bringing out strongly the effect of soil pollution in the neighbourhood of dwellings; others on enteric fever at Coventry (1902) and Ashington (1903) disclosed unusual features of spread of water-borne infection; an instance of the probable spread of infection by house flies was recorded in a report on Bedlington as early as 1902. Other epidemiological investigations included that into an anomalous epidemic of sore-throat in Lincoln, clearly associated with the milk-supply, in 1903; while Dr. Mair was also the author of reports on sanitary conditions and administration which often had much more than local interest. In particular, his reports on several of the larger rural districts of the country have in many cases led to important sanitary reforms.

Dr. Mair's services were specially in demand for inquiries into applications from various public authorities to his department for sanction to new methods of water purification and of sewage treatment, and for other matters involving intricate technical questions. In 1907 he was nominated to the Commission appointed by the Local Government Board for Ireland to inquire into the causes and prevention of the continued excessive death-rate of Belfast, and was specially concerned with the analysis of the evidence on which the exceptional mortality from enteric fever in that city was attributed to the water-supply. In discarding this hypothesis the Commission accepted and put forward the alternative explanation, elaborated by Dr. Mair in a separate memorandum, that infection by sewage-polluted shellfish, largely eaten raw, had for years operated on a scale the magnitude of which had been quite unsuspected. In 1910 Dr. Mair's report on mortality in through and back-to-back houses was issued as a Parliamentary paper, and the accuracy and importance of his

findings have received wide recognition. He was chairman of the Departmental Committee on the Use of Intercepting Traps in House Drains, the report of which, issued a few weeks ago, was fully reviewed in our columns. His early death has inflicted a great loss on the public health service of the country, on his own department, and on his many personal friends.

Dr. Mair was married, in 1894, to Edith, only daughter of Dr. W. B. Tate, of The Coppice, Nottingham, and is survived by his widow and two daughters. He was buried on Nov. 7th at Brompton Cemetery.

THE NATIONAL INSURANCE ACT.

THE RESOLUTIONS OF THE JOINT COMMITTEE OF THE ENGLISH UNIVERSITIES AND THE ENGLISH CONJOINT BOARD.

AT a meeting of the Joint Committee of the Royal Colleges of Physicians of London and Surgeons of England, the Society of Apothecaries of London, and the Medical Faculties of the Universities of England, held at the Royal College of Physicians of London on Nov. 13th, the following resolutions were passed:—

1. That in the opinion of this committee the conditions set up by the Provisional Regulations of the Insurance Commissioners dated Oct. 1st, 1912, are of such a nature as to interfere injuriously with the rights and proper independence of the medical profession, and with the efficiency of insured persons.
2. That medical practitioners in matters concerning their professional conduct ought not to be tried by a tribunal that is not professional, the decisions of which may have the most serious effect on their reputation and practice.
3. Seeing that the carrying out of the Provisional Regulations is left largely in the hands of the Local Insurance Committees, it would be unwise to agree to accept them (even if otherwise satisfactory) so long as the insured persons are represented upon these Committees by an overwhelming majority.
4. That attention should be called to the advisability of establishing tuberculosis centres in connexion with those hospitals to which medical schools are attached.

THE IMPERIAL MEDICAL REFORM UNION.

At a meeting of the executive committee of the Imperial Medical Reform Union, held on Nov. 7th, it was unanimously resolved:—

That the executive committee of the Imperial Medical Reform Union consider that the members of the profession can be recommended to accept service under the Insurance Act on the following conditions:—
(1) That payment be made for actual services rendered and medicines supplied;
(2) That the income limit of 40s. a week be observed;
(3) That the conditions of service be compatible with the honourable traditions and practice of the profession; and
(4) That the whole question of remuneration be reconsidered at the end of three years.

THE NATIONAL MEDICAL UNION AND THE ACT.

Over 600 members of the medical profession in and around Manchester held a mass meeting in the Midland Hotel, Manchester, on Saturday, Nov. 9th, under the chairmanship of Mr. G. A. WRIGHT, F.R.C.S. The meeting was organised by the National Medical Union.

After the vigorous introductory remarks of the chairman, who hoped that they would have nothing at all to do with the Act or Regulations till they were fully and satisfactorily amended, Mr. E. B. TURNER proposed the following resolution:—

That in the opinion of this meeting the conditions of service laid down in the Regulations issued by the Insurance Commissioners are intolerable—notwithstanding the new proposals foreshadowed by Mr. Lloyd George in his speech on Oct. 23rd—and would destroy for ever the independence of the medical profession. Therefore, any financial offer under the National Insurance Act should be refused until the conditions of service are made compatible with the best interests and honourable position of the profession.

Mr. TURNER, in the course of an eloquent speech, said that they might disregard the threatening storm if only the officers of the ship kept their heads and the crew carried out their instructions intelligently and heartily.

The resolution was seconded by Dr. T. WHEELER HART, who severely criticised the conditions of service proposed to the medical profession, and was supported by Dr. E. S. Reynolds, Professor G. R. Murray (Manchester), Dr. R. H. Trotter (Huddersfield), and Dr. Maurice (Lancaster). On being put to the meeting the resolution was carried unanimously and with enthusiasm.

Mr. F. H. WESTMACOTT (Manchester) then moved, and Dr. C. E. M. LOWE (Crewe) seconded, the following resolution:—

That the members of the British Medical Association present undertake to attend their divisional meetings and instruct their representatives that any failure on the part of the representative meeting to give effect to the original demands of the profession—formulated by the British Medical Association and reconfirmed at this meeting—will inevitably result in independent action being taken.

This resolution was also carried, with only two or three dissentient votes, and the result was greeted with loud applause.

BRISTOL PROVISIONAL MEDICAL COMMITTEE AND THE ACT.

The Provisional Committee for the Bristol area has issued a report calling attention to the various points in which the Chancellor's latest proposals are unsatisfactory. It is recognised that the remuneration now offered is not unreasonable, but it is held that the conditions of service are in many respects impossible unless freely amended. A large meeting of practitioners, under the auspices of the Bristol Division of the British Medical Association, has given unanimous support to resolutions embodying opinions similar to those expressed in the Provisional Committee's circular.

Medical News.

UNIVERSITY OF OXFORD.—The new department of Pharmacology was opened on Nov. 9th, when the Reader in Pharmacology, Dr. J. A. Gunn, delivered his inaugural address. A distinguished company attended, which included the Vice-Chancellor, several heads of houses, graduates in medicine, and resident members of the University, as well as the members of the local profession. The Regius Professor, in introducing Dr. Gunn, briefly sketched the history of pharmacology in the University, and enumerated the previous teachers in the subject, special mention being made of the services rendered by Dr. Smith Jerome who had been lecturer for ten years. Dr. Gunn took as the title of his lecture "The New Pharmacology." He referred to the antiquity of the use of drugs, not only as remedies, but also as lethal weapons, such as arrow poisons and in the ordeal. He inferred that considerable accuracy in the dosage and knowledge of these drugs must have been acquired by observation of their effects. He mentioned that the skin of toads had been used in primitive times for the relief of dropsy, that recently a body similar to digitalis had been isolated by Abel, and that its therapeutic effect was again being tried on patients. In behoved pharmacologists, therefore, to look with respect upon the ancient uses of crude drugs. In the nineteenth century the action of drugs became more precise, and in these investigations other actions of great importance were discovered, such as the action of physostigmine on the pupil. In the twentieth century the great aim was in the direction of specific therapeutics; quinine for malaria and mercury for syphilis were specific remedies discovered by chance. A tribute was paid to the brilliant work of Ehrlich in this field. Finally, he gave an example in the recent work of Cushny and Mackenzie on digitalis of the great results that may be expected in the future when an expert pharmacologist works in connexion with a clinician of experience. In thanking Dr. Gunn for his lecture, the Regius Professor reminded the Vice-Chancellor (the Principal of Brasenose) that Withering's monograph on the use of digitalis was inspired by the results of its use on a previous holder of his office. An adjournment was then made to inspect the new pharmacological laboratory, which is situated in the front of the main building of the museum, and has been fitted up with all modern requirements. Tea was served in an adjoining department, where were displayed an exhibit of the editions of the work of Dioscorides on Materia Medica.

UNIVERSITY OF OXFORD.—The following degrees have been conferred:—

D.M.—A. H. Hogarth and M. Davidson.

FOREIGN UNIVERSITY INTELLIGENCE.—*Florence:* Dr. C. Lotti has been recognised as *privat-docent* of Internal Pathology, Dr. G. Glocci and Dr. U. Trinci as *privat-docenten* of External Pathology, and Dr. N. Beccari as *privat-docent* of Anatomy.—*Genoa:* Dr. A.

Cambiaso has been recognised as *privat-docent* of Internal Pathology, and Dr. Lampugnam as *privat-docent* of Midwifery and Gynæcology.—*Kansas (University School of Medicine)*: Dr. John Sundwall has been appointed to the chair of Anatomy, and Dr. Lindsey S. Milne to that of Medicine.—*Königsberg*: Dr. J. Schreiber has been promoted to an Honorary Professorship of Medicine.—*Marburg*: Dr. E. Göppert, of Heidelberg, has been appointed Extraordinary Professor of Anatomy.—*Modena*: Dr. O. Pes, of Cagliari, has been appointed Extraordinary Professor of Ophthalmology.—*Munich*: Dr. J. Ibrahim, *privat-docent* of Pædiatry, has been granted the title of Extraordinary Professor.—*Naples*: Dr. A. Lauletta and Dr. E. Pasaneso have been recognised as *privat-docenten* of Surgical Anatomy, and Dr. C. Gargano and Dr. C. Molè as *privat-docenten* of External Pathology.—*Pavia*: Dr. C. Da Fano has been recognised as *privat-docent* of Pathological Anatomy.—*Prague (German University)*: Dr. Oskar Bail has been promoted to the chair of Hygiene in succession to Dr. Hueppe. The chair of Clinical Medicine, vacated by the death of Dr. Pribram, has not yet been filled, though it has been offered to three gentlemen.—*Prague (Bohemian University)*: Dr. Edward Nessel, Extraordinary Professor of Odontology, has been promoted to Ordinary Professor.—*Rome*: Dr. A. L. Bonanome has been recognised as *privat-docent* of External Pathology, Dr. O. Ascenzi as *privat-docent* of Neurology, and Dr. U. Da Luca as *privat-docent* of Electro-Therapeutics and Radiology.—*Saratoff*: Dr. N. M. Kakushkin, of St. Petersburg, has been appointed Extraordinary Professor of Midwifery and Gynæcology.—*Turin*: Dr. P. Sisto has been recognised as *privat-docent* of Internal Pathology and Dr. Bruni as *privat-docent* of Anatomy.—*Würzburg*: Dr. P. Flury has been recognised as *privat-docent* of Pharmacology.—*Zürich*: Dr. W. Maier has been recognised as *privat-docent* of Psychiatry.

LITERARY INTELLIGENCE.—Messrs. J. and A. Churchill are publishing "An Introduction to Dental Anatomy and Physiology: Descriptive and Applied," by Mr. A. Hopewell-Smith. The work is intended as a text-book both for students and practitioners of dental surgery, and contains 340 new and original illustrations.

DEATH OF A CENTENARIAN.—The *Times* states that William Head, an inmate of Windsor Workhouse, who reached the age of 105 on Oct. 11th, died recently. He was born near Newbury, and worked as a labourer till he was 96 years old. Up to the last he enjoyed the regulation workhouse infirmary diet, smoked shag tobacco, and drank beer. The old man, who lived in six reigns, remembered seeing the soldiers return from Waterloo, and he also recollected taking part in Queen Victoria's Coronation.

THE ROYAL SANITARY INSTITUTE.—An adjourned sessional meeting will be held at the Royal Sanitary Institute, 90, Buckingham Palace-road, London, S.W., on Tuesday, Nov. 19th, at 8 P.M., for the purpose of continuing the discussion on the Report of the Departmental Committee on Intercepting Traps in House Drains, opened by Mr. H. Percy Boulnois, M.Inst.C.E.—A sessional meeting will be held on Saturday, Nov. 23rd, in the Mansion House, Doncaster, at 11 A.M., when a discussion will take place on Town Planning in Relation to the Development of the South Yorkshire Coal Field, to be opened by Dr. A. B. Dunne. Among those announced to take part in the discussion are the Bishop of Wakefield, Dr. H. Handford, Dr. J. R. Kaye, Dr. G. J. Langley, and Dr. J. Wright Mason.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—The next general or quarterly meeting of this association will be held at 3 o'clock on Nov. 26th, at 11, Chandos-street, Cavendish-square, London, W., under the presidency of Dr. J. G. Soutar, when Dr. Sidney Coupland will read a paper entitled "Remarks on Death Certification and Registration," and Dr. David Orr and Dr. R. G. Rows will contribute a joint paper on "The Subacute and Acute Inflammatory Reactions Produced in the Spinal Cord by Infection of its Lymph Stream," with lantern demonstration. Members will afterwards dine together at the Café Monico Restaurant at 6.45 P.M. for 7 o'clock. If sufficient members signify their desire to the Treasurer, Mr. H. F. H. Newington, Ticehurst, Sussex, before Nov. 22nd, a group of seats will be taken for the Coliseum after dinner.

MEDICAL MAGISTRATES.—Mr. J. Cropper, M.D. Cantab., of Caerwent, and Mr. Edmond Ryan, L.R.C.P. & S. Edin., of Crumlin, have been placed on the commission of peace for the county of Monmouth.

THE annual dinner of the Bristol Medical School will take place at the Royal Hotel, College Green, on Nov. 21st, at 7 for 7.30 P.M. Mr. H. F. Devis will preside, and Sir John Bland-Sutton will be the guest of the evening.

AT the meeting of the Society of Tropical Medicine and Hygiene, to be held at 11, Chandos-street, W., to-day (Friday), at 8.30 P.M., a paper will be read by Dr. W. F. Law upon the Prevention of Ankylostomiasis in British Guiana.

A MEETING of the council of the Association for Promoting the Training and Supply of Midwives will be held on Thursday, Nov. 28th, at 12 noon, at Caxton Hall, Westminster, when the chair will be taken by H.R.H. Princess Christian of Schleswig-Holstein.

PRESENTATION TO A MEDICAL MAN.—At the recreation rooms, Shenstone, on Nov. 7th, Mr. G. H. H. Manfield, M.R.C.S. Eng., L.R.C.P. Lond., was presented by the parishioners of Shenstone and the district with an oak instrument cabinet, together with a purse of money, on the occasion of his marriage.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Select Committee on Patent Medicines.

THE Select Committee of the House of Commons which is investigating the sale and advertisement of patent medicines is now engaged in taking the evidence of manufacturers and vendors of proprietary remedies. Their attitude is that the legislation which has been advocated by the medical witnesses is unnecessary and would inflict uncalled-for "interference with the large and reputable trade in proprietary medicines."

Mr. J. C. UMNEY, chairman of the drug and chemical section of the London Chamber of Commerce, in his evidence on Wednesday, Nov. 6th, gave detailed expression to the views of the manufacturers of proprietary articles. He insisted upon the value of proprietary household remedies. There would, he said, be an enormous advantage to the medical profession if the sale of proprietary remedies were prevented or limited. He took strong objection to the disclosure of the formula of a patent medicine, as it would lead to imitation, and consequent loss to the original proprietors. The section which he represented had carefully considered the evidence taken before the Select Committee, and respectfully begged to make the following observations and suggestions. Any proposed amendment of the law which would compel owners of proprietary articles to disclose their trade secrets or declare the ingredients in their medicines, except to the limited extent at present required in respect of poisons by the Poisons and Pharmacy Act, 1908, would be strongly opposed. The evidence had shown that most of the alleged abuses arose in connexion with the sale of abortifacients and anticonception preparations, and the like. The members of his section of the London Chamber of Commerce desired to dissociate themselves entirely from this class of business. As regarded abortifacients, anticonception preparations, and preparations purporting to affect sexual virility, there might be stringent restrictions forbidding newspaper or circular advertisement. As regarded certain articles of this nature, the Offences against the Person Act, 1861, already provided remedies against the sale of articles of this class In respect to remedies advertised or held out as specially applicable to ailments peculiar to women—and some of these were useful and necessary to many at certain times—the public advertisement of these should be in simple language such as not to imply that the medicine was recommended for improper purposes. A statement might appear prominently on each package that where suppressed menses were due to pregnancy the preparation would not alter the condition. He had a special suggestion to make in regard to remedies claiming to cure the diseases of cancer, consumption, rupture (other than by mechanical appliances), locomotor ataxy, Bright's disease, diabetes, and syphilis. Newspaper or circular advertising of such medicines claiming to cure such diseases might be made illegal. No statement should be made on any label of any medicine that it would cure any such disease. The necessary alteration in the law to carry out these suggestions could advantageously be made by amending the Indecent Advertisements Act. He understood that there was at present an amending Bill under the consideration of the Home Secretary. However, as regarded other proprietary medicines, it was felt very strongly by him and by those

whom he represented that no case had been made out for any interference with the large and reputable trade in proprietary medicines.

The witness went on to say that complaint had been made before the Committee, although not supported by any particular evidence, that dangerous habit-forming or poisonous drugs were freely sold to the public under the disguise of proprietary medicines. Those whom he represented would call particular attention to the Poisons and Pharmacy Act, 1908, which enabled any drug the free sale of which ought to be restricted to be placed on the poisons schedule by the Pharmaceutical Society with the consent of the Privy Council, and this schedule was subject to any necessary extension without further legislation. The public were thus fully protected.

If further legislation were necessary, he proceeded to say, it was suggested—although the need for further legislation was not admitted—that any amending legislation should be on the following lines:—

1. Every manufacturer or his representative in this country, before offering proprietary medicines for sale, must procure from the Excise a certificate of registration for such medicines.

2. Such manufacturer or representative should, when applying for the certificate of registration, furnish the following particulars:—

(*a*) A list of medicines proposed to be made or imported;

(*b*) the principal address of the manufacturer or his representative in this country;

(*c*) for the use of the Inland Revenue Departments the names of any poisons within the meaning of the Poisons and Pharmacy Act, and if the maximum dose recommended should exceed the average or mean which was mentioned in the British Pharmacopœia, the quantity of the poison contained in any such medicines must also be given.

3. The department which had to look after the regulations was to send to the secretary of the Pharmaceutical Society a copy of any certificate issued in respect of any proprietary medicine containing poison within the meaning of the Act.

4. The certificate issued to be numbered and to contain the particulars given on the form of application.

5. Every package of medicine issued should bear the number of the certificate. No vendor should indicate that the certificate of registration in any way affected the merit of the proprietary article, and no reference to such certificate other than by statute provided should be made on any label, package, circular, or advertising matter.

6. The department issuing the certificates should have power to refuse or to cancel such certificates for the sale of any medicines which were sold contrary to law or which did not correspond with the certificate of registration.

7. Any manufacturer who might be refused a certificate or have it cancelled should be entitled to a full statement of the department's reason for their action and to have a right to appeal to the court.

8. Proper penalties to be imposed on any manufacturer or dealer knowingly selling a proprietary medicine contrary to law.

Mental Deficiency Bill.

Several of the proposals which the Home Secretary recently recommended to the Standing Committee of the House of Commons which is dealing with the Mental Deficiency Bill have been introduced into that measure. It will be remembered that Clause 17, along with other matters, laid down that amongst the persons who should be subject to the Act were those who were "defectives and ..... (e) in whose case it is desirable in the interests of the community that they should be deprived of the opportunity of procreating children: (f) in whose case other circumstances exist as may be specified in any order made by the Secretary of State, as being circumstances which make it desirable that they should be subject to be dealt with under this Act." These two paragraphs have been deleted by the Committee and substitutes introduced. It has been decided that defective women in receipt of poor relief at the time of giving birth or about to give birth to an illegitimate child shall be brought within the scope of the clause. The Committee also agreed to the insertion of a paragraph extending the clause to defectives in whose case "such other circumstances" exist as may be specified in regulations to be made by the Secretary of State as being circumstances which make such persons injurious or dangerous to themselves or to the community.

At the meeting of the Standing Committee which is dealing with the Bill on Tuesday, Nov. 12th, the question of the effect of the Government's defeat in the House of Commons on the fortunes of the measure was raised. Several honourable Members remarked that it could not usefully be discussed further.

Mr. ELLIS GRIFFITH, the Under Secretary of State for the Home Department, said that the promise of the Home Secretary to push forward the Bill must be read in the light of what had happened on Monday. But there was no need to adjourn, as every honourable Member present must acknowledge that very excellent work had been done by the committee.

The committee proceeded to discuss Clause 17.

In the course of the discussion Mr. ELLIS GRIFFITH said that there was no controversy with regard to the definitions of idiots, moral imbeciles, and mentally infirm, but there was a controversy as to the definition of the class of imbeciles and feeble-minded persons. The Government, after consideration, would agree to accept the definition of these two classes in the language proposed in two amendments by Mr. HARRIS. According to one of these amendments imbeciles were persons in whose case there existed from birth or from an early age mental defectiveness not amounting to idiocy, yet so pronounced that they were incapable, and likely to be permanently incapable, of managing their own affairs, or, in the case of children, of being taught to do so. The definition which it was proposed to adopt in regard to the other class was that feeble-minded persons were those in whose case there existed from birth or from an early age mental defectiveness not amounting to imbecility, yet so pronounced that they required, and were likely permanently to require, care, supervision, and control for their own protection or the protection of others, or, in the case of children, were incapable of receiving further benefit from instruction in ordinary schools.

No formal decision on these proposals had been taken when the committee adjourned.

The Defeat of the Government.

This is not the place to write of the political effects of the defeat of the Government on Monday, Nov. 11th. However, as the Cabinet has resolved to continue in office, it is understood that the incident will have no effect on the negotiations which may take place with the medical profession in regard to the Insurance Act. It is, however, regarded as within the bounds of probability that the Government will not be so keen in its anxiety to place the Mental Deficiency Bill on the Statute-book this year. The progress of this Bill in Standing Committee requires the attendance of a certain number of the supporters of the Government at an early hour of the day, and if the incident of Monday has the effect of increasing the vigilance of the Party whips in retaining Members at Westminster during the sittings of the House, it is likely that some of the committees will be sacrificed.

Mr. Asquith's Motion to Rescind the Decision of the House on Sir Frederick Banbury's Amendment.

The sitting of the House of Commons on Wednesday night was adjourned by the Speaker under the Standing Orders on the ground that a state of grave disorder had arisen during the debate.

HOUSE OF LORDS.

THURSDAY, NOV. 7TH.

Medical Benefits.

Answering a question put by Lord HENEAGE, Earl BEAUCHAMP said that, with regard to medical benefits under the Insurance Act, it was a matter of common knowledge that fresh terms had been suggested to the medical profession and were now being considered. Only the other day the doctors in London had a meeting, and if their willingness to work the Act was followed throughout the country, as seemed likely, there was reason to hope that there would be an efficient medical service at the disposal of insured people on the day mentioned in the Act.

HOUSE OF COMMONS.

WEDNESDAY, NOV. 6TH.

Plague at Mombasa.

Sir HILDRED CARLILE asked the Secretary of State for the Colonies to state the circumstances connected with the outbreak of small-pox at Mombasa, in East Africa, and the official health measures which entailed a serious agitation among the native population.—Mr. L. HARCOURT answered: I am not aware that there has been an outbreak of small-pox at Mombasa. An outbreak of plague was reported on Oct. 10th. I am assured that all precautions are being taken, but I have heard nothing of the agitation to which the honourable Member refers. The disease is stated to be pneumonic or septicæmic in character, and according to the latest report there have been 16 cases and 15 deaths.

The Ravages of Tuberculosis.

Mr. POLLOCK asked the Secretary of the Treasury what was the estimated number of persons in the United Kingdom suffering from tuberculosis; whether he could state what number of persons were so suffering in England, Scotland, Wales, and Ireland respectively; and what proportion of the number so suffering were entitled to sanatorium benefit under the National Insurance Act.—Mr. MASTERMAN wrote in reply: The numbers of persons who died through tuberculosis in 1910 in England and Wales, in Scotland, and in Ireland were 51,317, 8517, and 10,016 respectively. No figures are available as to the number of persons suffering at the present time, and no estimate could be formed except on the basis of an assumed ratio between deaths and cases, which is necessarily speculative, and must vary in the different forms of tuberculosis. The proportion of tuberculous persons who may obtain treatment under the National Insurance Act would, if Insurance Committees extend the benefit to dependents, ultimately exceed 50 per cent., but as only those who have been at work at some time since July 15th can be insured the present proportion must be, and remain for some time, very much lower.

THURSDAY, NOV. 7TH.

Peamount Sanatorium.

Sir JOHN LONSDALE asked the Chief Secretary to the Lord Lieutenant of Ireland whether his attention had been called to a memorial from the residents of the districts of Clondalkin, Lucan, Hazelhatch, and Celbridge Rathcoole, Newcastle, Laggard, and Brittas, in the county of Dublin, protesting against the establishment of a hospital for consumptives at Peamount; and, seeing that the memorialists represented that the hospital would be a source of danger to the lives and certain immediate injury to the property of the residents in the neighbourhood, and in view of the difficulty which had arisen in reference to the water-supply, whether he would recommend that the grant to the Women's National Health Association should be withdrawn.—Mr. BIRRELL replied: I have received the memorial referred to. As I have already informed the honourable Member, Peamount has been certified

by several experts as entirely suitable for a sanatorium, and the fears that it will be a source of danger to the residents in the neighbourhood are entirely at variance with the best medical opinion. I am happy to say that the difficulty about the water-supply has been overcome, as water was struck this morning. The answer to the last part of the question is in the negative.

The Treasury Grant for Medical Benefit.

Sir PHILIP MAGNUS asked the Prime Minister whether he would afford, at an early date, an opportunity to the House for the discussion of the question of the increased Treasury grant to be set aside for medical benefit, and of the terms suggested for the employment and the remuneration of doctors taking service under the National Insurance Act.—Mr. ASQUITH replied: I fear that I am not in a position to make any statement at present.

An Actuarial Calculation of Medical Benefit.

Mr. CHIOZZA MONEY asked the Secretary to the Treasury to state the actuarial value to a male person 16 years of age of the additional grant to doctors for medical benefit in connexion with the National Insurance Act.—Mr. MASTERMAN answered: The actuarial value of the additional grant which it is proposed to make from the Exchequer for medical benefit is for a boy of 16 £3 0*s.* 3*d.*

Rural Practitioners in Scotland.

Captain MURRAY asked the Secretary to the Treasury what arrangements it was proposed to make to safeguard the interests of the country doctors in Scotland in regard to mileage allowance.—Mr. MASTERMANN replied: The method of distribution of the amount available for medical remuneration is largely a matter for the medical profession themselves, and the Government would favourably consider any proposals which command the general support of the profession. I may add that the Regulations provide for the adoption of any method of remuneration which may be considered desirable for any county in Scotland where, owing to sparseness of population, difficulties of communication or other special circumstances the normal methods of remuneration appear to be unsuitable.

The Supply of Drugs.

Mr. HUDSON asked the Secretary to the Treasury whether, in the case of payment to doctors under the National Insurance Act of 7*s.* per person for attendance and 1*s.* 6*d.* for drugs, either amount would in any case be liable to deduction.—Mr. MASTERMAN replied: It is intended that the 7*s.*—namely, the 6*s.* 6*d.* per insured person for medical attendance and treatment under medical benefit and the 6*d.* for the treatment of tuberculosis—shall be applied solely to remuneration of medical practitioners on the panel; and that the 1*s.* 6*d.* shall be applied solely to meeting the cost of drugs and appliances, a further 6*d.* being divisible between chemist and doctor according to the cost of the drugs ordered. Neither amount will be subject to deduction for any other purpose.

Attendance on Patients under the Insurance Act.

Mr. HUDSON asked the Secretary to the Treasury whether, under the National Insurance Act, medical men chosen by insured persons could depute their assistants to attend to their patients.—Mr. MASTERMAN replied: When a practitioner on the panel is precluded by urgency of other professional duties, absence from home, or other reasonable cause from giving personal attendance to an insured person under his care, he may depute an assistant to act on his behalf.

MONDAY, NOV. 11TH.

Home Rule and Medical Education.

Mr. MOORE asked the Prime Minister whether the General Medical Council would continue to exercise any supervision in Ireland over medical education or professional conduct if the Government of Ireland Bill should become law.—Mr. ASQUITH answered: Yes, subject to any future Irish legislation.

Medical Arrangements under the Insurance Act.

Mr. BRIDGEMAN asked the Secretary to the Treasury whether he could state definitely what processes of diagnosis of blood, sputa, &c., would be included in the list of those for which payment is to be covered by the allowance for drugs.—Mr. MASTERMAN answered: Such methods of diagnosis as are presumably referred to in the question will, so far as employed, come under the heading of medical treatment and not of drugs. It is not possible to state in advance what particular methods will be employed by different practitioners, but, as already stated, practitioners on the panel will not be required themselves to undertake work demanding skill and experience beyond that which the ordinary general practitioner can properly be expected to possess.

Sir PHILIP MAGNUS asked the right honourable gentleman to state by what arrangement an insured person, temporarily resident in another county than that in which he ordinarily resided, or in another part of the same county, and taken suddenly ill, would be able to secure medical benefit under the National Insurance Act; and whether a qualified medical practitioner not on any panel would be recognised as able to give a certificate.—Mr. MASTERMAN answered: The arrangements referred to in the first paragraph of the question will be found in the Provisional Regulations relating to medical benefit, especially paragraphs 44 and 45. I am not clear as to what certificates the honourable Member is referring to in the second paragraph of his question.

Sir PHILIP MAGNUS asked whether a medical practitioner accepting service under the National Insurance Act was permitted to have a qualified assistant who was not a partner, and to employ such an assistant in visiting some of the cases of illness that might arise within the 30-mile area over which his contract practice, under Section 3 of Part I. of conditions of service for practitioners, was required to extend.—Mr. MASTERMAN said in reply: Yes, Sir, in the circumstances, but only in the circumstances described in paragraph 6 of Part I. of the First Schedule to the Regulations recently issued relating to the administration of medical benefit under the Act.

Croydon Lunacy Visiting Committee.

Dr. ADDISON asked the Secretary of State for the Home Department whether he was aware that the Croydon borough council had constituted their whole body of 56 members as their Lunacy Visiting Committee; and whether this procedure was in accordance with the advice and opinion of the Lunacy Commissioners.—Mr. MCKENNA replied: The Croydon borough council have proposed to constitute their whole body of 56 members as their Lunacy Visiting Committee, entirely contrary to the advice and opinion of the Lunacy Commissioners, and a case is being submitted to the Law Officers of the Crown as to whether the proposed action of the council would be legal under the Lunacy Acts.

Sanatorium Benefit.

Mr. CHARLES BATHURST asked the Secretary to the Treasury whether 7½*d.* only per insured person was now available to county councils for the provision of sanatorium benefit after the deduction of 1½*d.* for administration.—Mr. MASTERMAN answered: The whole sum of 1*s.* 3*d.* is available for sanatorium benefit, of which 6*d.* will be allocated to domiciliary treatment of patients recommended for such benefit. The proportion of the sum to be allocated to expenses is not yet determined.

TUESDAY, NOV. 12TH.

Extra-mural Schools of Medicine at Edinburgh.

Mr. HOGGE asked the Secretary for Scotland whether he was aware that the extra-mural schools of medicine in Edinburgh were responsible not only for attracting students from all over the world to Edinburgh, but for supplying many of the most eminent teachers in the profession; and whether he had considered the effect an inclusive fee in medicine at the University would have upon the continuance of such schools.—Mr. MCKINNON WOOD replied: I have no information as to whether the facts are as stated in the question. The matter is not one for which I am responsible, and I am not prepared to express an opinion upon it.

Medical Teaching Fees in Scottish Universities.

Mr. HOGGE asked the Secretary for Scotland whether he, as the Minister responsible to the House of Commons for the educational policy in Scotland, approved of the important changes, such as the adoption of an inclusive fee for medicine for the Scottish Universities, without any reference at all either to the Scottish Education Department or to the representatives of Scotland.—Mr. MCKINNON WOOD said in reply: Questions relating to inclusive fees at, or to the internal management or constitution of, the Scottish Universities are not matters for which I am responsible.

Mr. HOGGE asked the Secretary for Scotland whether the Lords of the Treasury consulted him prior to refusing additional grants to Edinburgh University unless the University found it possible to adopt an inclusive fee in medicine.—Mr. MCKINNON WOOD replied: The answer is in the negative.

Mr. HOGGE asked the Chancellor of the Exchequer whether he had received a resolution from the General Council of the University of Glasgow, asking for a general discretion with regard to an inclusive fee for medicine; and whether, in view of the opposition of both Glasgow and Edinburgh to the proposal, he was now prepared to withdraw the letter of the Lords of the Treasury stating that the adoption of such a fee was a condition of increased grants to the Scottish Universities.—Mr. LLOYD GEORGE wrote in reply: A resolution from the General Council of Glasgow University has been received. I am in communication with the University Court on the subject.

Births in the United Kingdom.

In reply to Mr. KING, Mr. BURNS stated that the number of births registered in England and Wales during 1911 was 881,241, in Scotland 121,811, and in Ireland 101,758. These three numbers were provisional.

WEDNESDAY, NOV. 13TH.

The House Fly and Disease.

Mr. STANIER asked the President of the Local Government Board whether the inquiry into the life-history of the house fly and its relation to disease was completed; if so, what were the conclusions arrived at, and what had been the cost of the inquiry; and also whether he was aware that there had been a successful cultivation of the parasitical fungus Empusa muscæ, which had been recommended by the officers of his Board to be used for the destruction of house flies; and whether he was taking any steps to enable the public to acquire the fungus spores in a condition ready for use.—Mr. BURNS replied: The investigations which I have caused to be made into the life-history of the house fly have been partly summarised in the annual report of my medical officer for the year 1910–11, and a further summary of subsequent researches will be given in his forthcoming annual report. The sum of £655 5*s.* has been spent in the course of five years on these inquiries. The investigations I have authorised for the present financial year are closed, but the question of continuing them in the next financial year, including the question of the cultivation of the fungus to which the honourable Member refers, is receiving my consideration.

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A Handbook of Sugar Analysis. A Practical and Descriptive Treatise for Use in Research, Technical, and Control Laboratories. By C. A. Browne, Ph.D., Chemist in Charge of the New York Sugar Trade Laboratory. First edition. First thousand. Price 25s. 6d. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication

ALEXANDER, CHARLES JENKINS, M.B., B.Ch., B.A.O. R.U.I., has been appointed Resident Medical Officer at the Winsley Sanatorium, near Bath.

BOYCOTT, A. E., M.D., Ch.B. Oxon., has been appointed to the Chair of Pathology in the University of Manchester.

BREBNER, C. S., M.D. Edin., D.P.H. Camb., has been appointed Medical Officer of Health to the Chiswick Urban District Council.

CROSSMAN, FRANCIS WARD, M.B., B.S. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for No. 2 District and Public Vaccinator for No. 6 District by the Chipping Sodbury (Gloucestershire) Board of Guardians.

DAVIES, G. MEREDITH, M.B., B.S. Lond., has been appointed Resident Medical Officer at the British Lying-in Hospital.

DOBSON, J. R. B., M.R.C.S., L.R.C.P. Lond., M.B., B.S. Lond., has been appointed Assistant Medical Officer to the City Sanatorium, Yardley-road, and to the Tuberculin Dispensary, Birmingham.

DUNDON, E., L.R.C.P. & S. Irel., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Borris District of the county of Carlow.

FOTHERGILL, W. E., M.D. Edin., has been appointed Joint Lecturer in Obstetrics and Gynæcology in the University of Manchester.

GRIFFIN, F. W. W., M.B., B.C. Cantab., has been appointed Joint Chief Tuberculosis Officer for the County of Surrey.

LAYTON, T. B., F.R.C.S. Eng., has been appointed Throat and Ear Surgeon to Guy's Hospital.

MAY, OTTO, M.D. Cantab., M.R.C.P., has been appointed Permanent Medical Officer to the Prudential Assurance Company.

SHAW, A. F. BERNARD, M.B. Dub., D.P.H., has been appointed Assistant Medical Officer of Health and Assistant School Medical Officer to the City and Port of Cardiff.

SHAW, W. FLETCHER, M.D. Manch., has been appointed Assistant Lecturer in Obstetrics and Gynæcology in the University of Manchester.

WALLS, W. K., M.B. Lond., has been appointed Lecturer in Clinical Obstetrics and Gynæcology in the University of Manchester.

WALTERS, FREDERICK R., M.D. Lond., has been appointed Joint Chief Tuberculosis Officer for the County of Surrey.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ACRE LANE HOME FOR MENTALLY DEFECTIVE BOYS, Acre-lane, Brixton, S.W.—Medical Officer. Salary £30 per annum.

BODMIN, CORNWALL COUNTY ASYLUM.—Third Assistant Medical Officer and Pathologist. Salary £150 per annum, with quarters, board, laundry, and attendance.

BOURNEMOUTH, ROYAL VICTORIA AND WEST HANTS HOSPITAL.—House Surgeon for six months. Salary £80 per annum, with board, lodging, and laundry.

BRIGHTON, HOVE, AND PRESTON DISPENSARY.—Resident Medical Officer, unmarried. Salary £130 per annum, with board and residence.

CANCER HOSPITAL (FREE), Fulham-road, London, S.W.—House Surgeon for six months. Salary £70 per annum.

CARDIFF, KING EDWARD VII.'s HOSPITAL.—Senior Resident Medical Officer. Salary £120 per annum, with board, washing, and apartments.

CARDIFF, THE KING EDWARD VII. WELSH NATIONAL MEMORIAL.—Tuberculosis Physician. Salary £400 per annum.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary £150 per annum, with apartments.

CENTRAL LONDON SICK ASYLUM, Colindale-avenue, The Hyde, Hendon, N.W.—Assistant Medical Officer. Salary £120 per annum, with board and residence.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road.—Registrars.

COVENTRY EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £300 per annum.

EASTERN DISPENSARY, Leman-street, E.—Resident Medical Officer. Salary £120 per annum, with residence and attendance.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, London, S.E.—Physician to Out-patients.

GISBURNE HOUSE, WATFORD, INDUSTRIAL SCHOOL FOR GIRLS.—Medical Officer. Salary £43 12s. per annum. Also Dentist. Salary £15 per annum.

HALIFAX ROYAL INFIRMARY.—Third House Surgeon, unmarried. Salary £80 per annum, with residence, board, and washing.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—Pathologist. Salary £100 per annum.

HASTINGS, EAST SUSSEX HOSPITAL.—Assistant House Surgeon. Salary at rate of £70 per annum, with residence, board, and washing.

KING'S COLLEGE.—Senior Demonstrator and Lecturer in Anatomy.

KING'S COLLEGE HOSPITAL, London.—Sambrooke Surgical Registrar.

LEAMINGTON, WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL AND MIDLAND COUNTIES BATHING INSTITUTION.—Honorary Medical Officer for treatment of Diseases of the Ear, Nose, and Throat.

LIVERPOOL, TOWNSHIP OF TOXTETH PARK WORKHOUSE AND INFIRMARY.—Assistant Resident Medical Officer. Salary £125 per annum, with board, washing, and apartments.

LONDON LOCK HOSPITAL.—Pathologist.

LONDON TEMPERANCE HOSPITAL.—Surgical Registrar. Salary at rate of 40 guineas per annum.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY.—Resident House Surgeon. Salary £120 per annum, with rooms, attendance, board, and washing

MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £200 to £220 per annum, with quarters, attendance, washing &c.

MANCHESTER, MOSS SIDE FEVER HOSPITAL.—First Assistant Medical Officer. Salary £200 per annum, with board, lodging, and washing.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead.—House Physician. Salary £75 per annum, with board, residence, and washing.

NEWCASTLE-UPON-TYNE, CITY AND COUNTY OF.—Medical Officer of Health and Medical Superintendent of City Hospitals for Infectious Diseases. Salary £700 per annum.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary £160 per annum.

NEW HOSPITAL FOR WOMEN.—Female House Physician, Two House Surgeons, Obstetric Assistant, Anæsthetist, Clinical Assistants for Out-patient Department. Also Assistant Pathologist.

PADDINGTON INFIRMARY.—Second Assistant to Medical Superintendent for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

PRESTON, COUNTY ASYLUM, Whittingham.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, and washing.

PRESTON ROYAL INFIRMARY.—Senior and Junior House Surgeons, unmarried, for six months. Salaries £80 and £60 per annum respectively, with board, residence, and washing.

ROYAL EAR HOSPITAL, Soho.—Honorary Assistant Anæsthetist.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-street, West Strand, W.C.—Clinical Assistants for six months.

ST. PETER'S HOSPITAL FOR STONE, &c., Henrietta-street, Covent Garden, W.C.—Junior House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

SINGAPORE MUNICIPALITY (HEALTH DEPARTMENT.)—Second Assistant Health Officer. Salary 4200 dollars for first year, up to 4800 dollars for the third year, with free furnished quarters, light, and water. Also Bacteriologist. Salary at rate of 5160 dollars for first year, up to 6000 dollars for the third year.

STOCKPORT INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, washing, and residence.

UNIVERSITY OF LONDON.—Examiners.

WAKEFIELD GENERAL HOSPITAL.—Second House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

WELLS, SOMERSET AND BATH ASYLUM.—Second Assistant Medical Officer. Salary £135 per annum, with board, lodging, washing, and attendance.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House Surgeon, unmarried. Salary £75 per annum, with board, residence, and washing.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician for six months. Board, lodging, and laundry provided.

WESTMINSTER GENERAL DISPENSARY, 9, Gerrard-street, Soho, W.—Honorary Physician.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon for six months. Salary £80 per annum, with board, rooms, and laundry.

WORCESTER COUNTY AND CITY ASYLUM, Powick.—Junior Assistant Medical Officer, unmarried. Salary £160 per annum, with board, apartments, washing, and attendance.

WREXHAM INFIRMARY.—Resident Medical Officer. Salary £120 per annum, with board, lodging, and washing.

THE Private Secretary at the Home Office gives notice of a vacancy for a Medical Referee under the Workmen's Compensation Act, 1906, for Birmingham County Court.

Births, Marriages, and Deaths.

BIRTHS.

ARKLE.—On Nov. 9th, at Bentham, West Derby, Liverpool, the wife of A. S. Arkle, M.R.C.S., L.R.C.P., of a son.

BARWELL.—On Nov. 12th, at Wimpole-street, the wife of Harold S. Barwell, F.R.C.S., of a son.

GLANVILLE.—On Nov. 11th, at Emsworth, Hants, the wife of L. S. Howard Glanville, M.D., B.S., of a daughter.

MARRIAGES.

GILCHRIST—MARKS.—On Nov. 7th, at St. Mary's, Primrose Hill, N.W., by the Rev. T. W. Wright, James C. Gilchrist, M.D., Cardiff, eldest son of the late Dr. Gilchrist, late of the Crichton Royal Institution, Dumfries, to Emmeline, younger daughter of the late Alfred Marks, Esq., formerly London Manager of the London City and Midland Bank, Limited, and Mrs. Marks, Adelaide-road, Hampstead.

MACKENZIE—BURGOYNE.—On Nov. 6th, at the British Consulate and the Guards' Chapel, Cairo, Major T. Campbell Mackenzie, D.S.O., R.A.M.C., Egyptian Army, to Elsie Burgoyne, only daughter of the late C. Moyle-Borlase, of Penzance, Cornwall, and Mrs. Borlase, of Aldborough, Norfolk.

TODD—PEARSON.—On Nov. 9th, at the Wesleyan Church, Ulverston, by the Rev. James Todd (father of the bridegroom), assisted by the Rev. E. Middleton Weaver, Thomas Wingate Todd, M.B. Manch., F.R.C.S. Eng., to Eleanor, only daughter of Edmund and Eleanor Pearson, of Ulverston (late of Manchester).

DEATHS.

HOOLE.—On Nov. 1st, Henry Hoole, M.D. Lond., late Medical Officer to the Stock Exchange Clerks' Provident Fund, and the Royal Insurance Co., aged 62. This notice is inserted by his bereaved sister, Miss Hoole, 90, Tufnell Park-road, N.

MCLOUGHLIN.—On Nov. 8th, at University College Hospital, Captain Wilfred Montagu McLoughlin, late R.A.M.C.

POUT.—On Nov. 6th, at Yalding, very suddenly, Frank Pout, Brigade Surgeon, Army Medical Staff, aged 76 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

LEVELLING UPWARDS.

IN his presidential address at the Middlesbrough Church Congress, the Archbishop of York, discussing, among other things, the industrial unrest, gave utterance to some wise reflections. Acknowledging the fact that beneath all this unrest there is the movement of a true and right ambition to better the conditions of individual life, his Grace pointed out that one main cause of our difficulties is the division of classes—of rich and poor in our cities, of employer and employed, aggravated by the modern system of limited companies, of landlord and tenant in our towns. A temper of mutual understanding and consideratenes, he insisted, was vital to conciliation, to compulsory arbitration, to copartnership. It was not sufficiently patent, he thought, that the main cause of the bitterness in the present discontent was the existence of a large and apparently increasing class of persons into whose possession and spending of wealth no conception of duty or responsibility seemed to enter. Capital, even in the form of shares in a joint-stock company, was responsible for the conditions of the labour employed by it. Labour, on the other hand, when exercising power, as it often does in these days of vast labour organisations, is equally morally bound to consider the interests and amenities of the whole community. While a perusal of the report of the Royal Commission of 1842-3 on the Conditions of Children Employed in Mines and Factories showed the transformation of the public conscience that had taken place in the past 70 years, were there not multitudes of children, he asked, born into an environment where the only chances were downward? There would always be relative poverty, but the squalor and misery which still darkened and disgraced our cities ought to be rendered impossible. The nation ought to provide every man, woman, and child within it with a foothold of sufficient chance in health conditions, in housing, in industrial training, and in the case of adults in wages which would render it possible for individual effort to raise the individual out of the quagmire.

THE TOXIC FACTOR IN TOBACCO.

To the Editor of THE LANCET.

SIR,—I hope you will find space for this short letter. I read with great interest your article on the Toxic Factor in Tobacco. In the days when smoking mild tobacco "bit" the tongue, I never could thank cigarette smoking for sending me a single patient. So I cannot identify this toxic factor with furfural. Tobaccos manufactured in bond for exportation to the colonies produce such symptoms as extravagant fantastic dreams, restless sleep, wakefulness, especially after 4 A.M., misery and bitemporal headache next day. The effects of nicotine are quite different: immediate nausea, pallor, and vomiting; the effects of furfural are sore tongue and pharyngitis. Your article says, "the manufacturer may have good reason for adding these compounds" (including oil) "to tobacco, but the process may likely enough give rise to fresh toxic factors in tobacco smoke. On the other hand, he may be alive to this possibility, and add correctives in the shape of nitrates, ammonia, or other basic substances to defeat the irritating property, only perhaps to develop others, which, while free from 'bite,' may have toxic effects not referable to tobacco at all."

I believe the drug of which I complain as producing such ill effects in so many of my patients is some *particular volatile oil*, for many pipe tobaccos which used to be sold in "plugs" are now sold in tins. Now can any reader of your journal reveal this secret? The process has been in use for about eight years in the manufacture of cigarettes and mild pipe tobacco. It might be found by simple inquiry that a volatile oil capable of producing such symptoms is used with a view of producing a soothing, cooling effect on the tongue; the revelation would confer a great boon on smokers of tobacco manufactured in bond for exportation.

I am, Sir, yours faithfully,

Lyttelton, New Zealand, Oct. 1st, 1912. C. H. UPHAM.

SOMALILAND.

THE Acting Commissioner's report on the Somaliland Protectorate for the year ended March 31st, 1912, has been received at the Colonial Office and presented to Parliament. The Protectorate contains about 68,000 square miles, and the population consists mainly of Somalis, a Mahommedan tribe, numbering about 300,000, but there are a few hundred Indians and Arabs, and about 20 Europeans. The country, owing to its arid nature, is capable of supporting only a sparse nomadic population. At Berbera, the capital, there exists a permanent water-supply brought from springs through pipes. The other towns depend on wells, which are liable to shifting and to become brackish on occasion. There is a quarantine station, consisting of a building containing a "Clayton disinfector" machine and a room for the disinfection to take place in. The machine is worked by a small oil engine. The climate is chiefly remarkable for its very dry character. In the interior the country is healthy, generally speaking, throughout the year, but the same can scarcely be said of the coast belt. Here, during the "kharif"—i.e., the months of June, July, August, and not infrequently half September—the atmospheric conditions are very trying for Europeans, and the effect on the nervous system is most pronounced. Terrific gales of dust-laden wind are then prevalent, and the heat is intense, with the thermometer registering 105°–110° F. in the shade at midday and seldom falling below 100° at night. Most of the sickness, however, occurs during the months immediately preceding and immediately following the "kharif." During the months of November, December, January, and February the climatic conditions on the coast greatly improve. A general hospital is situated at each of the three principal coast towns, Berbera, Bulhar, and Zeyla. At Berbera there is accommodation for 42 beds, at Bulhar for 4, and at Zeyla for 6. Camp hospitals, constructed of matting huts on wooden frameworks, have been in use at each of the towns for meeting an epidemic of small-pox. They answer the purpose very well, and withstand the wind far better than the tents used formerly. The number of admissions to the hospitals was 190; the number of deaths in hospital was 6. These figures are exclusive of 2846 cases, with 1256 deaths from small-pox, treated at the small-pox camps. There is a dispensary attached to each of the hospitals. The attendances during the year totalled 30,880. A small room is available at the hospital at Berbera for the purpose of blood examinations, urine testing, &c. No culture equipment exists, but microscopic sections can be cut and mounted and simple chemical analyses conducted.

THE REMOVAL OF KING'S COLLEGE HOSPITAL AFTER OVER 70 YEARS FROM PORTUGAL-STREET TO CAMBERWELL.

AN interesting example of the change which is taking place in the central districts of London is evidenced by the expected removal of King's College Hospital during the next 12 months. In 1839 the council of King's College, London, needing a school for the complete education of its medical students, took measures for the formation, in the parish of St. Clement Danes, of a public hospital for the relief of poor, sick, and infirm persons. The intention was that the hospital should be maintained by voluntary contributions. Shortly afterwards the medical school was established. A lease was taken of buildings formerly the workhouse of the parish on the west side of Carey-street. These buildings were converted into a hospital by Sir Robert Smirke, the famous architect, at a cost of £25,000, and provided accommodation for 120 patients, housed, however, in wards which, although palatial for those days, were of cramped dimensions compared with modern notions.

The needs of the hospital increased rapidly, yet no thought of removal entered the minds of the governors, because the patients were principally drawn from the surrounding district. In 1848 the hospital authorities acquired some adjoining property, and in 1850 the freehold of the hospital was acquired, comprising an area of 6960 feet super., and representing a price of nearly 9d. per foot rental—a good figure in those days for land situated as that was in the heart of a slum area. But further land was necessary to enable a hospital large enough for the needs of the locality to be met. This need was recognised, and the governors of the hospital obtained an Act of Parliament enabling them to purchase land compulsorily. The site being acquired, a large hospital was proposed to be erected and plans were prepared, the architect being Mr. T. Bellamy, and the building was arranged to be erected in three blocks, the total amount of the contracts for which exceeded £250,000 for the structure.

The change in the character and condition of the surrounding neighbourhood between 1840 and the present time is simply phenominal. In 1840 the Law Courts were not thought of, their site being covered by old and dilapidated property. Narrow courts and closed-up alleyways abounded. In 1912 the hospital stands surrounded by broad thoroughfares and the important group of buildings known as the Law Courts and Bankruptcy Buildings, Clement's Inn, New Court, the London Opera House, and the Land Registry Offices, as well as the new Commonwealth and Colonial Government Offices. Even by the year 1890 it had begun to be felt that the changes in the locality tended to deprive the hospital of much of its usefulness. The district had never been a desirable one in *all* respects for a hospital. It is true that the population of the surrounding neighbourhood was a very large and poor one, and that there was no other large hospital near or at hand, but the poor occupiers were rapidly being supplanted by business firms and traders. The position, for the purpose of appealing to the charitable, lacked many advantages; it had no frontage to any important arterial thoroughfare, and the approaches to the hospital from the Strand and Holborn were tortuous and indirect. A large outlay was needed to modernise the sanitation, and there was insufficient free space available for the purpose. The site being surrounded by public streets could not be extended. It was then shortly proposed to move the hospital to a site in South London, having an area of four acres, which had been offered by the Hon. W. F. D. Smith, upon which it would be possible to erect new buildings, with every modern hospital improvement.

In favour of this course it was urged that: (1) the district in which

it is situated has greatly changed, as is evidenced by the large falling-off in the number of out-patients that attend the hospital; (2) the hospital has ceased to have any special claims to support as a local institution—a large proportion both of the out-patients and the in-patients now come from distant parts of London; (3) there is an urgent popular demand for a large general hospital in South London; (4) the hospital was originally founded, not only as a charity, but also as a medical school for King's College, and on the present site it will be very difficult, if not impossible, for the medical school to preserve its existence.

The new hospital for 600 beds is being erected from the designs of Mr. W. A. Pite, F.R.I.B.A. The foundation stone was laid by King Edward VII. on July 29th, 1909.

The freehold site of the old hospital, over an acre in extent, and the existing buildings are offered for sale, or to be let on a building lease, or alternatively an offer is invited for the retention of the existing buildings subject to alterations to meet modern needs. Tenders are to be given by Dec. 18th this year to Messrs. Weatherall and Green, the hospital surveyors. Vacant possession will be given at the end of next year.

RECENT ADVANCES IN PHARMACEUTICAL CHEMISTRY AND THERAPEUTICS (E. MERCK).

THE twenty-fifth volume of this series, which has just been published, shows once more a very careful compilation of the advances made in pharmacology and therapeutics in recent times, which renders it a constant source of profitable reference. The first report was published in 1887, and a review of the volumes issued annually since reveals some marked and very interesting changes in therapeutic practice. The present volume contains an admirable history of the glycerophosphates (chemical and medical), and a well-executed essay on digitalis glucosides and allied drugs. The rest of the volume is devoted to the very numerous additions that have recently been made to the list of drugs, and an account of the clinical and experimental results furnished by further researches into familiar but comparatively new active principles. The work is of great assistance as a source of reference to all those concerned in modern therapeutics, and we understand that a limited number of copies is at the disposal of medical men, who should apply to the London offices of Mr. E. Merck, 16, Jewry-street, E.C.

WE are informed that the Faculty of Medicine of the University of Giessen has conferred the honorary degree of Doctor of Medicine upon Mr. Ernst Leitz, jun., of the optical firm of E. Leitz, of Wetzlar and London.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced:—

Nov. 8th–16th (London, Olympia).—Motor Exhibition.

In 1913:—

(Easter week) (Berlin).—Fourth International Congress for Physiotherapy.

April 26th (Ghent) (opens).—International Exhibition.

Aug. 6th–12th.—(London).—Seventeenth International Congress of Medicine.

Sept. 2nd–6th (Groningen).—International Physiological Congress.

" 22nd–28th (Milan).—Fourteenth International Anti-alcoholic Congress

September (Birmingham).—British Association.

(London).—Historical Medical Exhibition. (Organised by Mr. Henry S. Wellcome.)

(London).—International Historical Congress.

(Chicago).—Congress of the International Association of Refrigeration.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 13th, 1912.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Nov. 7	30·37	S.W.	...	66	57	50	49	51	Overcast
" 8	30·34	S.W.	...	64	57	50	53	55	Overcast
" 9	30·25	S.W.	...	62	55	51	51	52	Overcast
" 10	29·93	W.	...	68	57	45	46	49	Cloudy
" 11	29·39	N.W.	0·03	53	45	41	40	42	Overcast
" 12	29·43	N.W.	...	52	44	39	39	41	Overcast
" 13	29·56	N.	...	51	45	38	38	40	Cloudy

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Mr. A. S. Russell and Mr. R. Rossi: An Investigation of the Spectrum of Ionium (communicated by Prof. E. Rutherford).—Mr. J. A. Gray: (1) A Note on the Absorption of β Rays (communicated by Prof. E. Rutherford); (2) The Similarity in Nature of X and Primary γ Rays (communicated by Prof. E. Rutherford).—Mr. J. C. Chapman: The Spectra of Fluorescent Roentgen Radiations (communicated by Sir J. J. Thomson, O.M.).—Mr. W. Wahl: Optical Investigation of Solidified Gases. II., The Crystallographic Properties of Hydrogen and Oxygen (communicated by Sir J. Dewar).—Mr. R. E. Slade: An Electric Furnace for Experiments in Vacuo at Temperatures up to 1500° C. (communicated by Prof. F. G. Donnan).—Mr. R. E. Slade and Mr. F. D. Farrow: An Investigation of the Dissociation-Pressures and Melting Points of the System Copper, Cuprous Oxide (communicated by Prof. F. G. Donnan).—Mr. A. Russell: Note on the Capacity Coefficient of Spheres (communicated by Dr. C. Chree).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY.

SECTION OF THERAPEUTICS AND PHARMACOLOGY (Hon. Secretaries: H. H. Dale, W. Langdon Brown): at 4.30 P.M.

Papers:

Dr. A. E. Boycott and Dr. J. H. Ryffel: The Excretion of Chlorides in Normal and Nephritic Rabbits.

Dr. Douglas Cow: The Action of Some Diuretics.

Dr. R. G. Markham: The Absorption of Arsenic from the Skin.

GENERAL MEETING OF FELLOWS at 5 P.M.

Election of Candidates for the Fellowship.

SECTION OF SURGERY (Hon. Secretaries—James Berry, J. Murray): at 5.30 P.M.

Discussion:

Sarcomata and Myelomata of the Long Bones.

(Second Meeting: Adjourned from Nov. 12th.)

The discussion will be resumed by Mr. C. E. Gask (Prognosis) and Mr. A. Reid (X-ray Appearances).

SECTION OF PATHOLOGY (Hon. Secretaries—H. R. Dean, Gordon W. Goodhart): at 8.30 P.M.

Dr. H. Charlton Bastian, F.R.S.: Remarks on Further Experiments Concerning the Origin of Life.

Dr. W. S. Lazarus-Barlow: Effect of Radium on Muscle-Nerve Preparations.

Mr. J. E. R. McDonagh and Dr. B. G. Klein: Some Points Concerning the Vaccine Treatment of Gonorrhœa and Regulation thereof by the Complement Fixation Test.

WEDNESDAY.

SECTION OF THE HISTORY OF MEDICINE (Hon. Secretaries—Raymond Crawfurd, D'Arcy Power): at 5 P.M.

Election of Officers and Council.

Papers:

Sir William Osler, Bart., F.R.S.: A Down Survey Manuscript of Sir William Petty.

Dr. Raymond Crawfurd: Contributions from the History of Medicine to the Problem of the Transmission of Typhus.

Mr. D'Arcy Power: A Note on Two Medical Portraits of the Sixteenth and Seventeenth Centuries.

Dr. Michael Foster: Exhibition of Two Italian Diplomas of the Seventeenth Century.

An Exhibition of Pictures showing the Evolution of the Microscope will be on View.

THURSDAY.

SECTION OF DERMATOLOGY (Hon. Secretaries—Wilfrid Fox, J. M. H. MacLeod): at 5 P.M.

Cases:

Dr. J. H. Sequeira: Sequel to Alopecia Areata.

Dr. A. Castellani: (1) Further Observations on Tricho-mycosis Flava, Nigra et Rubra of the Axillary Regions; (2) Copra Itch and the Acarus-like Parasite causing it; (3) Brief Remarks on Some Tropical Skin Diseases of Hyphomycetic Origin (with exhibition of cultures).

And other Cases.

SPECIAL MEETING: at 8.30 P.M.

Discussion:

Erythema Multiforme (opened by Dr. H. G. Adamson).

SECTION OF NEUROLOGY (Hon. Secretaries—Wilfred Harris, T. Grainger Stewart): at 8 P.M.

Clinical Meeting:

Cases will be shown by Dr. Turner, Dr. Batten, Dr. Buzzard, Dr. Fearnsides, and others.

FRIDAY.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—H. S. Clogg, F. Langmead, P. N. Blake-Odgers): at 4.30 P.M.

Cases:

Dr. Bunch: Hereditary Syphilitic Infant treated by Intravenous Injection of Neosalvarsan.

Dr. J. W. Carr: Partial Facial Hemiatrophy.

Dr. Eric Pritchard: Multiple Exostoses with Atrophy of Muscles.

Mr. L. R. C. Norbury: Ulcerating Spina Bifida (Meningo-Myelocele) in a Child, aged 5 weeks; Subsequent Operation.

Mr. H. A. T. Fairbank: Ununited Fracture of the Neck of the Femur. And other Cases.

Specimens:
Dr. C. Paget Lapage: Primary Carcinoma of the Liver in a Boy, aged 6 years.
Dr. J. D. Rolleston: Pharynx and Larynx from a Case of Fatal Hæmorrhage.

Paper:
Dr. Leonard Guthrie: Epidemic Catarrhal Jaundice.
(On Dec. 13th, at 4.30 P.M., a discussion on the Treatment of Heart Disease in Children will be opened by Sir William Osler and Dr. Mackenzie. Will all Members who wish to take part in the discussion please communicate with the Hon. Secretaries of the Section?)

SECTION OF EPIDEMIOLOGY (Hon. Secretaries—G. S. Buchanan, William Butler): at 8.30 P.M.

Papers:
Dr. R. J. Ewart: The Influence of Parental and Grand-parental Age on the Susceptibility of Offspring to the Zymotic Diseases.
Dr. F. G. Crookshank: Note on Some Recent Theories of Tuberculosis and their Possible Significance.

LONDON DERMATOLOGICAL SOCIETY, St. John's Hospital, 49 Leicester-square, W.C.

TUESDAY.—4.30 P.M., Demonstration of Pathological Specimens. Communication:—Dr. Mary Rathbone: The Sodium Citrate Method of making Blood Films for a Differential Count. Cases sent for Consultation. Exhibition of Cases by Dr. M. Dockrell, Dr. J. L. Bunch, Dr. K. Sibley, Dr. J. L. Phibbs, and Dr. W. Griffith. 5.15 P.M., Discussion on Anomalies of Pigmentation (opened by the President). The following will take part:—Dr. J. L. Bunch: On their Ætiology; Dr. W. Griffith: On their Pathology; Dr. W. K. Sibley: On their Treatment.

ROYAL STATISTICAL SOCIETY, Rooms of the Royal Society of Arts John-street, Adelphi, W.C.

TUESDAY.—5 P.M., Dr. Dudfield: Still-births in Relation to Infantile Mortality.

CHELSEA CLINICAL SOCIETY, Club Rooms of the Medical School, St. George's Hospital, S.W.

TUESDAY.—8.30 P.M., Dr. L. Colebrook: Pneumothorax Treatment of Phthisis, with Exhibition of X Ray Charts and Apparatus.—Dr. D. Walsh: Diseases of the Skin in Relation to Cardio-vascular Disturbances.

ROYAL METEOROLOGICAL SOCIETY, Surveyors' Institution, Great George-street, Westminster, S.W.

WEDNESDAY.—7.30 P.M., Dr. H. R. Mill: The Unprecedented East Anglian Rainfall of August 26th, 1912.—Mr. A. P. Jenkin: A Three-year Period in Rainfall.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne-street, Edgware-road, W.

THURSDAY.—8.30 P.M., Dr. A. M. Gossage: Heredity.—Mr. W. H. C. Greene: Some Bacterial Infections of the Urinary Tract.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

TUESDAY.—5 P.M., Dr. R. H. P. Crawfurd: Echoes of Pestilence in Literature and Art—Lecture IV., To the End of the Eighteenth Century. (FitzPatrick Lecture.)
THURSDAY.—5 P.M., Dr. C. J. Martin: Insect Porters of Bacterial Infection. (Horace Dobell Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. M. H. Macleod: Clinique (Skin). 5.15 P.M., Lecture:—Mr. T. Walker: Stone in the Ureter.
TUESDAY.—4 P.M., Dr. J. R. Russell: Clinique (Medical). 5.15 P.M., Lecture:—Dr. D. Sommerville: Gastro-intestinal Medicine.
WEDNESDAY.—4 P.M., Mr. C. W. Rowntree: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. C. O. Hawthorne: On Hemianæsthesia and Cases of Hemiplegia.
THURSDAY.—4 P.M., Dr. P. Parkinson: Clinique (Medical). 5.15 P.M., Lecture:—Dr. F. J. McCann: Some Common Mistakes in the Treatment of the Diseases of Women.
FRIDAY.—4 P.M., Mr. E. A. Peters: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 11 A.M., Mr. Addison: Demonstration of Minor Operations 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Robinson: Gynæcological or Obstetrical Subjects.
TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Mr. T. Gray: Demonstration of Fractures, &c. 11.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin 5 P.M., Lecture:—Mr. Pardoe: Clinical (Urinary Surgery).
WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations on the Throat, Nose, and Ear. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women. 5 P.M., Lecture: Dr. Beddard: Practical Medicine.
THURSDAY.—10 A.M., Dr. Simson: Gynæcological Demonstration. 12.15 P.M., Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Baldwin: Practical Surgery.
FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Lecture:—Dr. Owen: Practical Medicine. 12.15 P.M., Lecture:—Dr. Bernstein: Clinical Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. R. Lloyd: Administration of Anæsthetics.
SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. G. Holmes: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.—2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Ear and Throat.
TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. C. Singer: Medical. Mr. A. J. Walton: Surgical. 12 noon, Dr. H. MacCormac: Skin.—2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine. 4.15 P.M., Sir M. Morris: Skin Clinique (alternate Tuesdays). 2.15 P.M., Special Lecture:—Mr. R. Carling: Surgical Diseases of the Thyroid Gland.
WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. P. Cole: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.—2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery. 3.15 P.M., Special Lecture:—Dr. Cargill: Some Ocular Manifestations of General Disease.
THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. G. Holmes: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.—2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. Dr. A. Davies: Pathological Demonstration. 3.15 P.M., Dr. R. Wells: Medicine. 4.30 P.M., Special Lecture:—Dr. F. Langmead: Myxœdema and Allied Conditions.
FRIDAY.—Out-patient Demonstrations:—10 A.M., Dr. C. Singer: Medical. Mr. A. J. Walton: Surgical. 12 noon, Dr. H. MacCormac: Skin.—2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford; Medicine. 3.15 P.M., Mr. L. McGavin: Surgery.
SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. P. Cole: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.—10 A.M., Dr. W. Steuart: Radiography.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. E. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. D. Gillies). 3 P.M., Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan).
TUESDAY.—Clinic; 2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Gynæcological (Dr. A. E. Giles). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting). 4.30 P.M., Lecture:—Mr. H. W. Carson: Tuberculous Glands, their Ætiology and Treatment.
WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., X Rays (Mr. W. Steuart); Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan). 5.30 P.M., Eye Operations (Mr. Brooks).
THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson). 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Special Demonstration:—Dr. T. R. Whipham: Selected Cases of Tuberculosis in Children.
FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld): Surgical (Mr. E. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie); Clinical Pathology and Pathological Demonstration (Dr. W. A. Duncan).

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.

MONDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department—Room III., Dr. M. Leslie; Room IV., Dr. S. Thompson. 4 P.M., Wards, Dr. M. Leslie. 4.30 P.M. to 5.30 P.M., Lecture Hall, Lecture-Demonstration.
TUESDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department—Room III., Dr. Phear; Room IV., Dr. B. King. 2 P.M., Operations and Throat Clinic, Mr. A. Evans. 3 P.M., Wards, Dr. White. 3.30 P.M., Wards, Dr. Phear. 4.30 P.M., to 5.30 P.M., Lecture Hall, Lecture-Demonstration.
WEDNESDAY.—2 P.M., Wards, Dr. A. Davies. Out-patient Department—Room III., Dr. Drysdale; Room IV., Dr. Kellie. 4 P.M., Wards, Dr. Drysdale. 4.30 P.M., Roentgen Ray Department, Dr. Jordan. 7 P.M., Department for the Prevention of Consumption.
THURSDAY.—9.30 A.M., Dental Department, Mr. G. Thomson. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department—Room III., Dr. M. Leslie; Room IV., Dr. S. Thompson. 4.30 P.M. to 5.30 P.M., Lecture Hall, Lecture-Demonstration.
FRIDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Wards, Dr. Calvert. Out-patient Department—Room III., Dr. Phear; Room IV., Dr. B. King. 3.30 P.M., A Special Clinical Demonstration by one of the Out-patient Physicians.
SATURDAY.—10 A.M., Out-patient Department—Room III., Dr. Drysdale; Room IV., Dr. Kellie. 11.30 A.M., Roentgen Ray Department, Dr. Jordan.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.

THURSDAY.—4 P.M., Mr. Gray: Static Deformities.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY AND FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. K. Wilson: Recent Advances in Cerebral Localisation.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4.30 P.M., Lecture:—Dr. Jex-Blake: Influenza and Tuberculosis.

LISTER INSTITUTE OF PREVENTIVE MEDICINE, Chelsea Gardens, Chelsea Bridge-road, S.W.

WEDNESDAY.—4 P.M., Lecture:—Mr. Atkin: The Electrical Method of Determining the Reaction of Fluids.

FRIDAY.—4 P.M., Lecture:—Dr. Ledingham: Some Problems of Immunity.

QUEEN'S HOSPITAL FOR CHILDREN, Board Room of the Hospital, Hackney-road, N.E.

MONDAY.—4 P.M., Mr. B. Pritchard: Details of Infant Feeding, with Demonstrations.

FRIDAY.—4 P.M., Mr. P. L. Mummery: The Treatment of Acute Abdominal Cases in Children.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

TUESDAY.—2 P.M., Dr. W. Griffith: The Pathology of the Skin.

THURSDAY.—6 P.M., Dr. M. Dockrell: Syphilis: Treatment (Constitutional and Local in all its Forms).

ROYAL DENTAL HOSPITAL OF LONDON SCHOOL OF DENTAL SURGERY.

TUESDAY.—6 P.M., Mr. R. McKay: Diseases of the Mouth and Associated Parts with Relation to Septic Conditions of the Teeth and Jaws.

ANCOATS HOSPITAL, Manchester.

THURSDAY.—4.15 P.M., Dr. W. J. S. Bythell: X Ray Diagnosis of Pulmonary Lesions. (Post-Graduate Clinic.)

MANCHESTER ROYAL INFIRMARY.

TUESDAY.—4.30 P.M., Dr. C. Moore: Medical Demonstration. (Post-Graduate Clinic.)

FRIDAY.—4.30 P.M., Mr. C. Roberts: Demonstration of Cases illustrating Surgical Affections of Joints. (Post-Graduate Clinic.)

SALFORD ROYAL HOSPITAL.

TUESDAY.—Mr. J. P. Buckley: Successive Attacks of Renal and Biliary Colic in the same Patient. (Post-Graduate Demonstration.)

For further particulars of the above Lectures, &c., see Advertisement Pages.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

TUESDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.), Royal National Orthopædic (9.30 A.M. and 4 P.M.).

WEDNESDAY (20th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (21st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal National Orthopædic (9 A.M. and 3.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M. Aural and Ophthalmic), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.) Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Royal National Orthopædic (3.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M and 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (23rd).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic (2 P.M.) Hospitals operations are performed daily. At the Western Ophthalmic Hospital operations are performed on Monday, Tuesday, Thursday, and Friday at 3 P.M., and on Wednesday and Saturday at 11 A.M.

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It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

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